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M1A2 SEP Permanent Crew/Platoon Training Program Training System Utilization Handbook

Contract No. N61339–94–C–0050
CDRL No. AAOX
Volume 1 of 2

Prepared for:
STRICOM
Research Parkway
Orlando, Florida 32826–3234

Prepared by:
Lockheed Martin Information Systems
12506 Lake Underhill Road
Orlando, Florida 32825–5002

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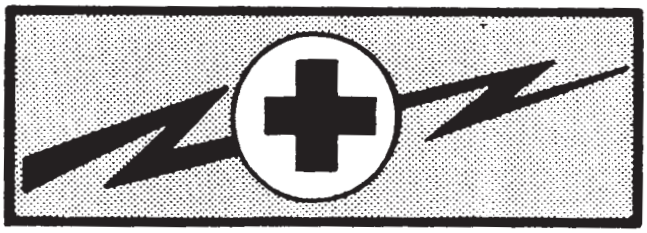
WARNING



WARNING
HIGH VOLTAGE

is used in the operation of this equipment.

DEATH ON CONTACT

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

WARNING Hazard of electric shock or burn. DO NOT remove cover around power panel circuit breaker.

WARNING Before you work around the electronic assemblies remove rings, bracelets, and wristwatches. These items may be shorted across an electrical circuit and cause severe burns and electrical shock.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high voltage connections of 208/115 volts AC connections when installing or operating this equipment.

For Artificial Respiration, refer to FM 21–11.

WARNING

- Do not remove equipment panels. Panel removal may expose voltages which can kill you on contact.

WARNING

- Do not tamper with smoke detectors. Radioactive material is sealed within each detector. Improper handling can expose personnel to harmful radiation.

SUMMARY OF WARNINGS

- Do not look straight into the crew station sight in–use sensors when the eye is closer than 4 inches (10.2 cm) to a sensor. The sensors emit infrared radiation and can cause serious damage to eyesight.
- The 120 volts ac power to the Crew Station Utility Panel cannot be turned off from the IOS Power Panel. The power will be on until Circuit Breakers No. 4 and 6 are set to OFF at the Power Panel.
- Remove personal rings, bracelets, wristwatches, earrings, necklaces, ID tags or other metal jewelry before working in electronic assemblies. Special Purpose Computer power remains on to maintain stable operation. Jewelry could short across an electrical circuit and cause severe burns or electrical shock.
- An overtemperature condition can rapidly develop into an equipment fire and produce toxic smoke. When an overtemperature condition occurs in the RAGTS shelter, alert students and ensure they exit the crew station and shelter immediately
- Utility lamp at the Instructor/Operator Station halogen bulb can reach very high temperature when left on for an extensive periods of time, if touched with bare hand, could cause severe burn.
- Vehicle Tank Helmet (VTH) must be worn when entering crew station and not removed until exit is completed.
- When entering or exiting the crew station, take extreme care that you do not bump your head on crew station entrance.

List of Effective Pages

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Revision A 20 March, 2000

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CHAPTER 1
INTRODUCTION

1.1 PREFACE

The M1A2 SEP (System Enhancement Package) Advanced Gunnery Training System (AGTS) was developed to supply a M1A2 SEP Main Battle Tank gunnery trainer. The AGTS was designed for armor unit training and/or to sustain gunnery proficiency of crews so they will be able to perform critical skills required in combat. To accomplish these required skills, AGTS provides the following proficiency level(s):

a. Special Purpose Skills – To introduce crew to orientation, boresighting and gunnery preparation exercises.

b. Pre–Live and Gate–to–Live Fire – To ensure all prerequisite skills are mastered prior to range activities.

c. Advance Gunnery Skills – To train M1A2 SEP commanders and gunners to employ the M1A2 SEP Tank in combat. Tank crews are required to engage stationary and moving targets from a stationary and moving ownvehicle.

d. Sustainment – Crews will advance to sustainment training after completion of Advance Gunnery Skills training, At this level, crews are required to fire randomly selected exercises from the Advance Gunnery Skills Levels.

Crews increase or sustain their gunnery proficiency by successfully completing exercises that require the performance of gunnery tasks under conditions similar to those encountered in combat. These tasks must be performed when the tank is fully operational, and with malfunctions. AGTS training is self–paced and adaptive to the needs and skills of each crew.

The Instructor/Operator (I/O) is a critical element in the AGTS training system. The I/O operates the trainer and trains the crews in gunnery skills. The I/O accomplishes this task by thoroughly understanding the AGTS, M1A2 SEP weapons systems, and the crucial training role of the I/O.

1.2 PURPOSE

This manual describes the principles and techniques required for the AGTS. I/O duties are discussed in detail. Application of principles and procedures outlined herein will ensure proper employment of the AGTS. This manual describes:

a. AGTS capabilities and characteristics.

b. Training features available to the I/O, and a brief explanation of their use.

c. The role of the I/O.

d. The role of the Training Manager and techniques to integrate the M1A2 SEP AGTS training system into the unit’s training program.

1.3 SCOPE

This manual describes the Permanent M1A2 SEP Advanced Gunnery Trainer System (AGTS) Unsheltered Training Device 17–176A. This manual consists of seven chapters and five appendices. Each chapter addresses a specific aspect of the AGTS and the role of the I/O's. Emphasis is on the I/O's duties and available instructional features. Areas of consideration include:

a. A general description of the AGTS.

b. Identification of each operating control and indicator by name, illustration of their location in the system, and a brief description of their use.

c. An explanation of the Crew Training Program (CTP) training matrix, scoring criteria, exercise numbering, and the Instructor/Operator's (I/O's) duties.

d. A discussion of the Training Manager's functions.

e. An overview of the exercises available on the M1A2 SEP AGTS.

f. Equipment operating and maintenance instructions.

g. Pre–briefing/After Action Review (PAAR) station operation.

The appendices provide the following information:

a. Appendix A – A Glossary of Terms and Abbreviations.

b. Appendix B – Reference and Text Material.

c. Appendix C – Boresight Procedures.

d. Appendix D – List Of Pre–live & Gate–to–live Fire Exercise Descriptions

e. Appendix E – M1A2 SEP AGTS Logbook.

1.4 MAINTENANCE FORMS AND PROCEDURES

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738–750, The Army Maintenance Management System (TAMMS).

In addition to preparing standard TAMMS forms, the Instructor/Operator shall maintain the AGTS Logbook forms (SCS 1612) contained in the TAMMS binder. See Appendix E for instructions.

1.5 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATION (EIR'S)

If your M1A2 SEP AGTS Training System Utilization Handbook (TSUH) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you would like to see improved or changed with the equipment. Explain in detail the design or performance changes. Complete a SF 368 (Product Quality Deficiency Report). Mail it to us at Simulation Training and Instrumentation Command (STRICOM), ATTN: AMSTI–LDM, 12350 Research Parkway, Orlando, Florida 32826–3276. A reply will be forwarded to you.

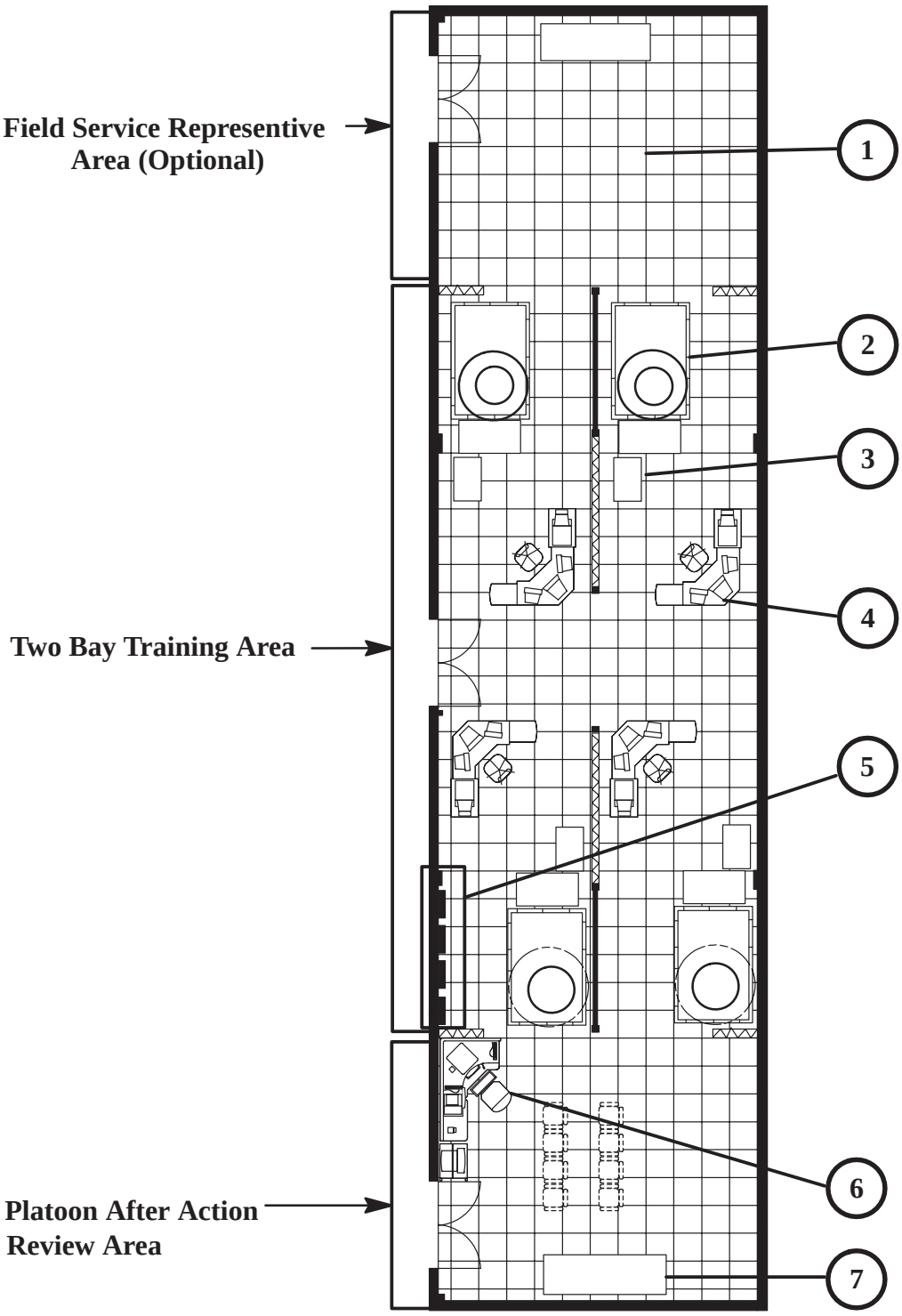


Figure 2–0. M1A2 SEP Advanced Gunnery Training System

CHAPTER 2
DESCRIPTION AND USE OF CONTROLS AND INDICATORS

SECTION I. Location and Description Of Major Components

2.1 SCOPE

This chapter identifies each of the operating controls and indicators by name, illustrates their location in the system, and briefly describes their use. The chapter is broken down into three sections: Section I describes the location and description of major components. Section II describes crew mode display and printout pages. Section III describes platoon mode displays and printout pages.

The M1A2 SEP (System Enhancement Package) Advanced Gunnery Training System (AGTS) is designed for installation in a training area approximately 92.2 by 22.8 meters to provide for:

- Field Service Representative (FSR) area.
- Two Bay Training area.
- Prebrief/After Action Review (PAAR) area.

During system operation, the temperature of the training area must be maintained between 69°F and 79 °F (16 °C and 26 °C) with a relative humidity of 30 to 70 percent.

During nontraining periods, the temperature of the equipment area(s) should be maintained between 5°F to 104 °F (–15 °C to 40 °C) with a relative humidity of 5 to 80 percent.

The air-conditioning and lighting systems are under the facility's standard operating procedures and are not covered in this manual. However, Instructor/Operators (I/O's) are responsible for ensuring that the humidity and temperature of the equipment area(s) remains within the prescribed ranges at all times.

The Field Service Representative area (1) is located adjacent to the Two Bay Training area. Depending on the site location, the FSR area may or may not be occupied by maintenance personnel.

There are four AGTS (2, 3, & 4) and four Power Panels (5) located in the Two Bay Training area.

The Prebrief/After Action Review area houses the PAAR station (6) and provides seating for crew(s) briefing. The Air Conditioners (7) are located in the FSR and PAAR station areas and are controlled under facility standard operating procedures.

The following paragraphs provide the location and descriptive details of the major units contained within each training area.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.2 INSTRUCTOR/OPERATOR STATION (IOS)

The IOS is used for communicating with the General Purpose Computer to control: system power–up, system diagnosis, training selections, training, training record management, and system power–down. The IOS permits the I/O to verbal communicate with the crew during training.

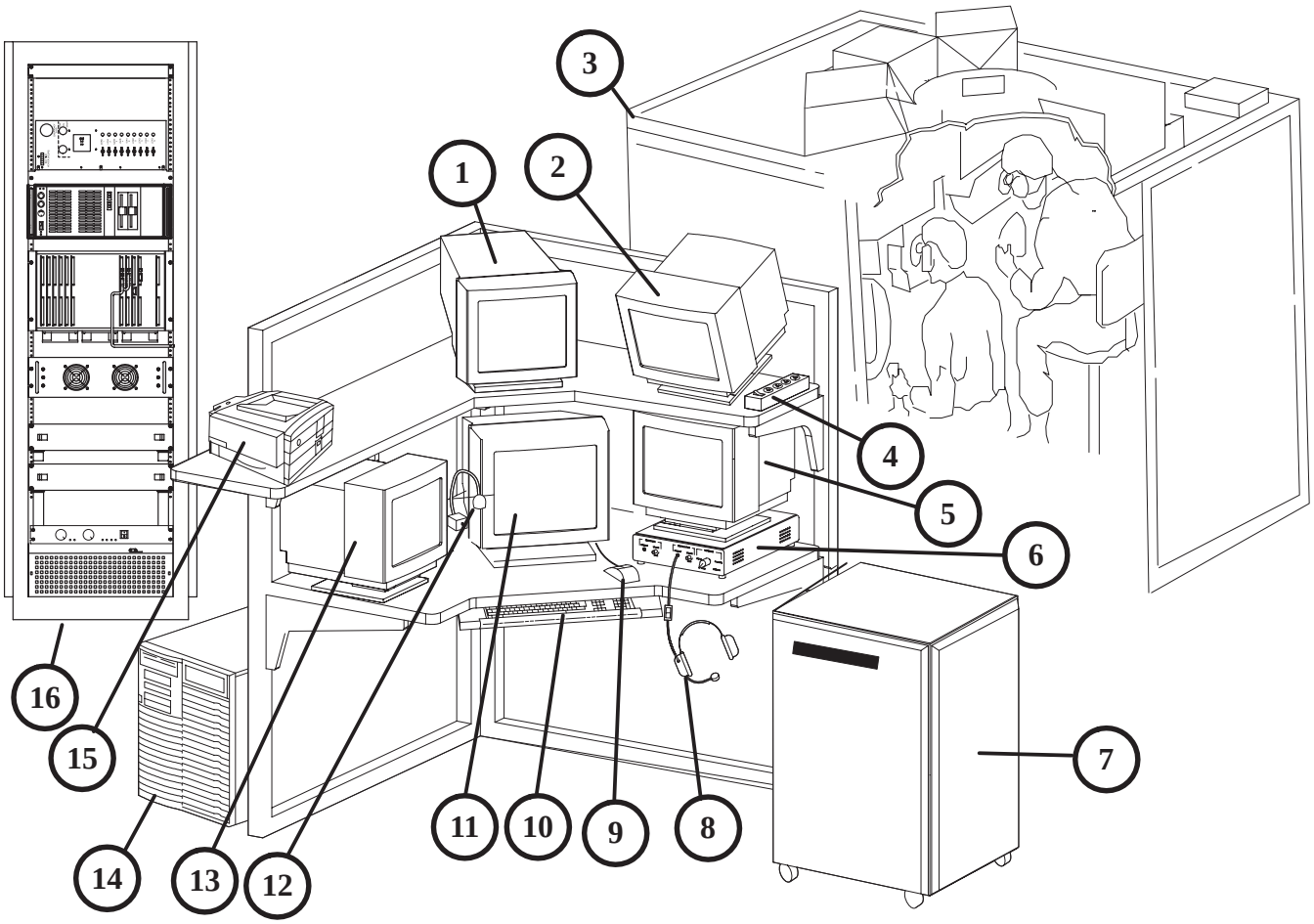


Figure 2–1. Instructor/Operator Station (IOS)

Key	Control or Indicator	Function
1	Unity Vision Block/Gunner Primary Sight Extension (UVB/GPSE) Training Monitor	Monitor replicates training scene as viewed by the commander in the crew station sights.
2	Commander's Display Unit (CDU) Training Monitor	Permits the I/O to monitor the Commander's operation of the CDU during training.
3	Crew station	Permits crews to train in a full size replica of the M1A2 SEP tank (See Figure 2–2).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
4	IOS Power strip	Provides electric power On/Off control for IOS components.
5	Gunner Primary Sight/Gunner Auxiliary Sight (GPS/GAS) Training Monitor	Monitor replicates training scene as viewed by the gunner in the crew station sights.
6	Communication box	Permits the I/O to communicate with the crews in the crew stations and other I/O's.
7	Special Purpose Computer	Contains the electronics for development of the video scene distribution (See Figure 2–4).
8	Communication headset	Used by I/O to communicate with crew in crew station.
9	Mouse	Used to select or deselect on–screen options.
10	Keyboard/Keypad	Provides the I/O with the means of communicating with the GPC to control system power–up, system diagnosis, training selections, training, training record management, and system power–down.
11	Display Terminal (Situation Monitor) Monitor	Permits the Instructor/Operator (I/O) to observe and control crew performance during training. Additionally, this monitor is an input/output interface for system power–up, diagnostic testing, maintenance, and power–down procedures. **WARNING** Utility light halogen bulb at the IOS can reach very high temperatures when left on for extensive periods of time. If touched, may result in severe burns.
12	Utility light	Provides necessary lighting for I/O at the IOS.
13	Commander's Independent Thermal Viewer (CITV) training monitor	Repeats sight scene at the IOS as viewed by the commander through the CITV sight during training.
14	General Purpose Computer	Provides memory storage and is the interface for system power–up, system diagnostics, crew training and system power–down (See Figure 2–3).
15	Laser Printer	Used to print training and crew record data. (See Figure 2–7).
16	Electronic Interface Device	Provides the interface between the GPC and crew station switches, indicators and controls (See Figure 2–6).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.2.1 CREW STATION

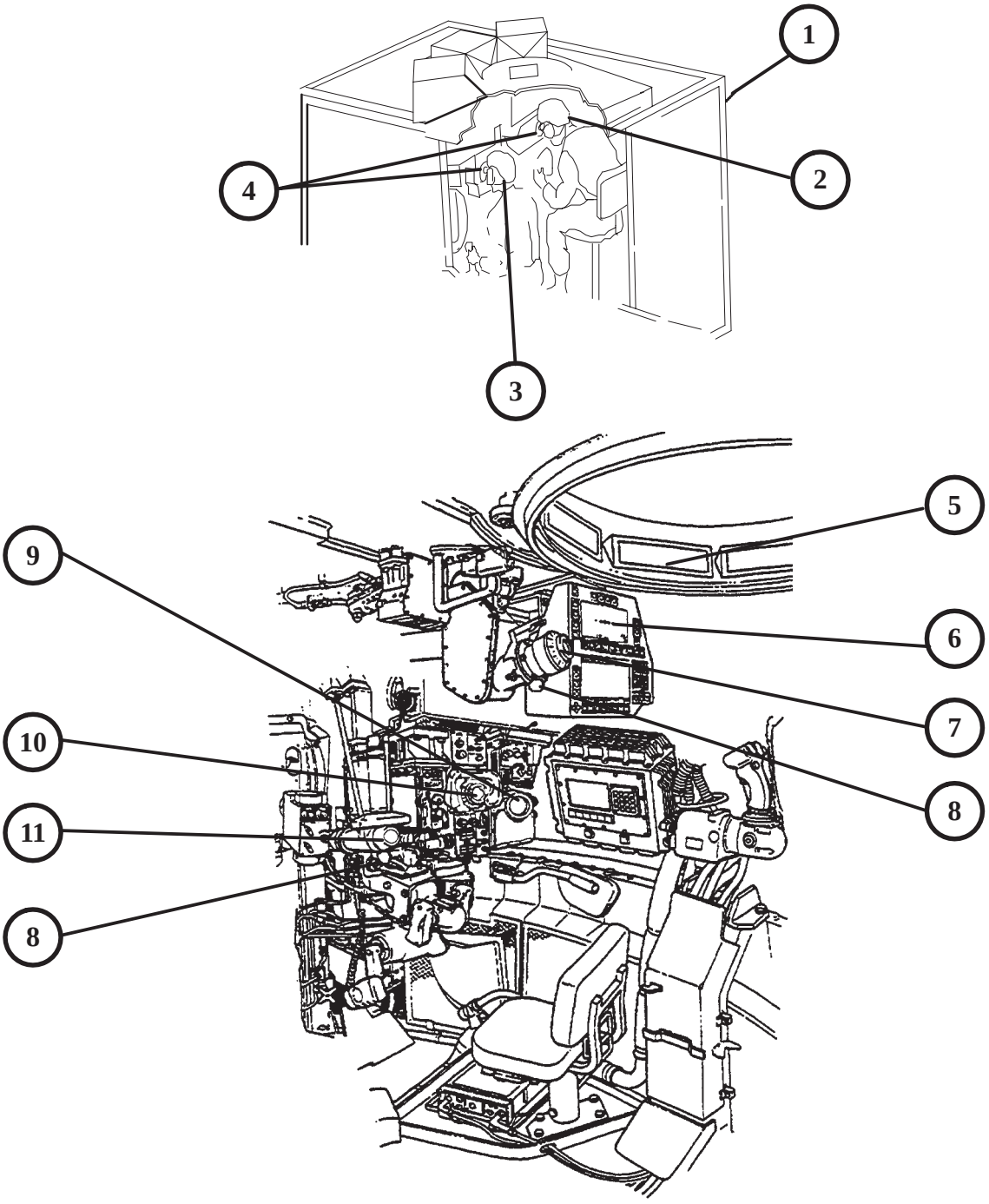


Figure 2–2. Crew Station

The Crew Station (1) is an enclosed cabinet assembly. The interior is designed as a full–size replica of the M1A2 SEP Tank Commander's (3) and Gunner's Station (2) (see TM 9–2350–388–10). Entry into the Crew Station is made through a sliding doorway at the side of the cabinet assembly. Controls, indicators, and panels are located in the same location as in the actual tank. They look the same, operate the same, and provide realistic, simulated responses. The Loader's and Driver's Stations are not simulated.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Tank and weapon sounds are simulated and heard through the sound system speakers in the crew station. The simulated sounds are engine transmission, track clatter, turret blower, NBC backup blower, main gun firing, breech movement, ammo loading, Commander's Independent Thermal Viewer (CITV) power, and falling spent brass on the turret floor. Other sounds included are the word "up" 2 seconds after breach closed, machinegun firing, smoke grenade firing, friendly tank firing, enemy fire explosions nearby, and TIS cooling unit sounds if engine is off. Voice warning messages are also provided and are played in the crew's intercom until cleared by the crew. The Intercom and simulated radio system also serves as a direct link between the Commander, the Gunner, and the Instructor/Operator. Owntank movement is simulated and modified by movement of the regular sight scenes, including reticle movement and vibration. Owntank motion can be stopped and restarted during any part of the exercise by the Instructor/Operator, upon command from the Commander. Weapon fire recoil is simulated through the browpads (4) of the sights.

Simulated Commander's and Gunner's weapon sights are:

a. GPS (10) including TIS operation, 3X and 10X daysight magnification, 3X, 6X, 12X, 25X, and 50X TIS magnification and diopter adjustment.

b. TIS Biocular (9) displays TIS view when enabled.

c. GPSE (7) with the identical features as the GPS.

d. GAS (11) with diopter adjustment and 8X magnification.

e. UVB's (5) Commander's Unity Vision Blocks with 1X magnification.

f. CITV (6) Commander's Independent Thermal Viewer, 3X 6X, 13X, 25X and 50X magnification.

WARNING

If eyes are closer than 4 inches to the in–use sensor (8), DO NOT look straight into the sensors. Sensors emit infrared radiation that can cause serious damage to the eyes.

The GPS, TIS, and GAS scenes, as viewed by the Gunner, are displayed by the same display system. An in–use sensor (8), under the GAS, turns on the GAS sight each time the Gunner's head moves close to the sight. In–use sensors mounted above the Gunner's head switch the GPS and TIS Biocular scenes as the Gunner moves his head from one sight to the other.

The Commander has the capability to view either the UVB's or the GPSE sight scene. There is an in–use sensor (8) mounted under the GPSE that switches the sight from a UBV's display to a GPSE sight scene when the commander's head moves within 4 inches of the GPSE sight. When the commander's head moves away from the GPSE sight, the in–use sensor switches off and the UVB's are again displayed.

The main gun and turret controls simulate those of the M1A2 SEP Tank. Each power control handle and its manual back–up system simulates the force, movement, and resulting weapon system response as the actual tank. All palm switches, Laser Range Finder (LRF) buttons, trigger switches, target designation, cursor control, wide and narrow field of view, and manual firing handles are functionally simulated. Traverse and elevation are simulated by visual scene movement in the sights and unit vision blocks.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.3 GENERAL PURPOSE COMPUTER (GPC) POWER PANEL

The GPC provides memory storage, input/output interface, and crew station image generator interface for system power–up, system diagnostics, crew training, and system power–down. **Note:** The locations of the CD ROM and the tape drive may be reversed on some systems.

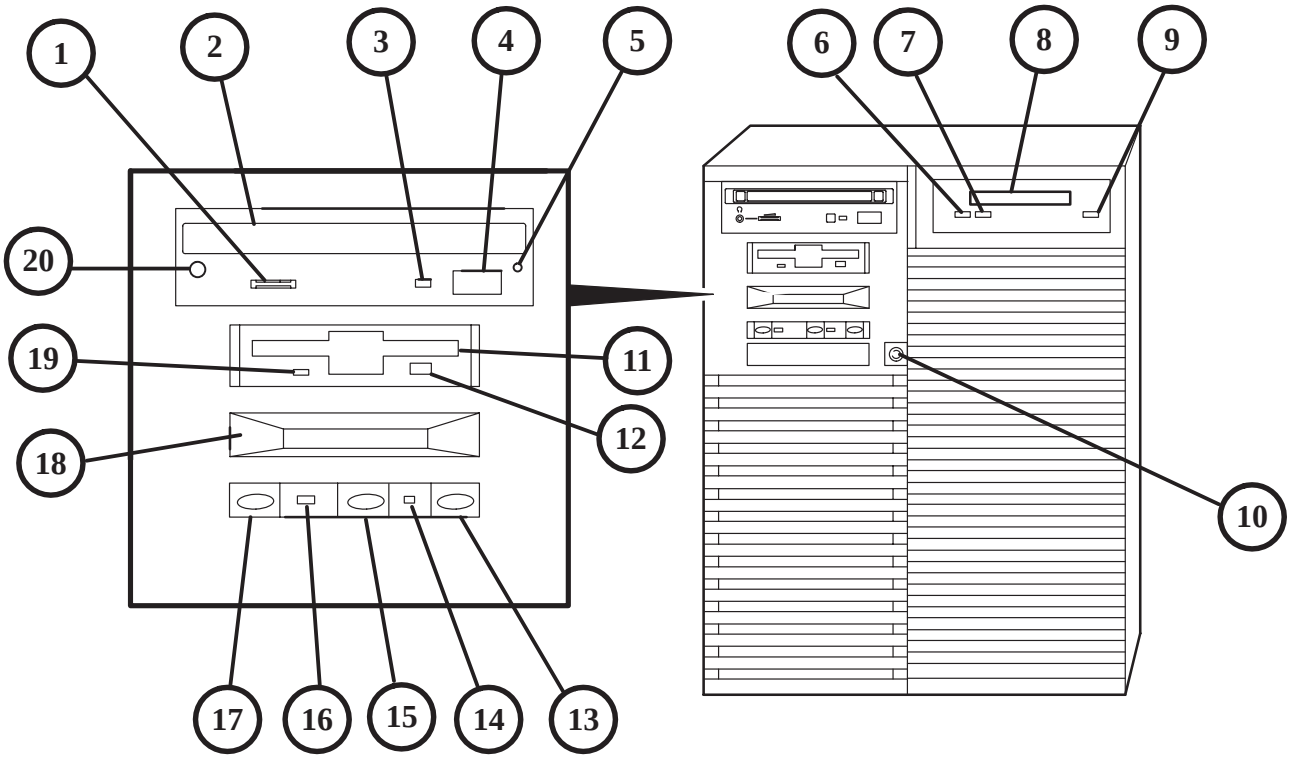


Figure 2–3. General Purpose Computer (GPC) Power Panel

Key	Control or Indicator	Function
1	CD ROM volume adjustment knob	Adjusts headphone volume. Not required for AGTS operation.
2	CD ROM drive compartment	Slides open (outward) when CD ROM eject button is pressed. This drive can be used when backing up crew records. Currently not required for AGTS operation.
3	CD ROM activity Indicator	Lights orange when CD ROM is in use.
4	CD ROM eject button	When pressed, CD ROM activity stops and the CD ROM door opens.
5	CD ROM emergency eject hole	Insert the end of a paper clip into the emergency eject hole and push in gently if the drive compartment door fails to open when the eject button (4) is pressed.
6	Tape drive activity indicator	Lights orange when tape drive is in use.
7	Tape drive power indicator	Lights green intermittently when On/Off pushbutton is set to On.
8	Tape drive compartment	Used for backing–up crew records.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
9	Tape drive eject button	When pressed, taping activity stops and tape ejects from drive.
10	Console keyswitch	For Field Service Representative use only.
11	Disk drive compartment	Used when backing up crew records. Currently not required for AGTS operation.
12	Disk drive eject button	When pressed, ejects disk from disk drive compartment.
13	Halt button	**CAUTION** **Do not attempt to perform system power–up with Halt Button set to ON position.** When pressed, stops operating system session. Do not attempt to power system up with Halt button set to ON.
14	Halt button On/Off indicator	Lights orange when Halt button is set to ON (in) position.
15	Reset Pushbutton	When pressed, system stops all current processes, initializes, and performs startup self test. Use Reset pushbutton to reset system if system hangs up.
16	On/Off indicator	Lights green when system power is ON.
17	On/Off pushbutton	DC power On/Off control and overload protection switch.
18	Operating control panel	Displays startup message. Information displayed is for Field Service Representative only.
19	Disk drive activity indicator	Lights orange when disk drive is in use.
20	CD ROM headphone port	Not required for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.4 SPECIAL PURPOSE COMPUTER (SPC) POWER DISTRIBUTION PANEL

The SPC contains the electronics for development of the video scene distribution of video signals and control data. Switches discussed are required to be set as described during system power–up (see Chapter 6 Operation Under Usual Conditions).

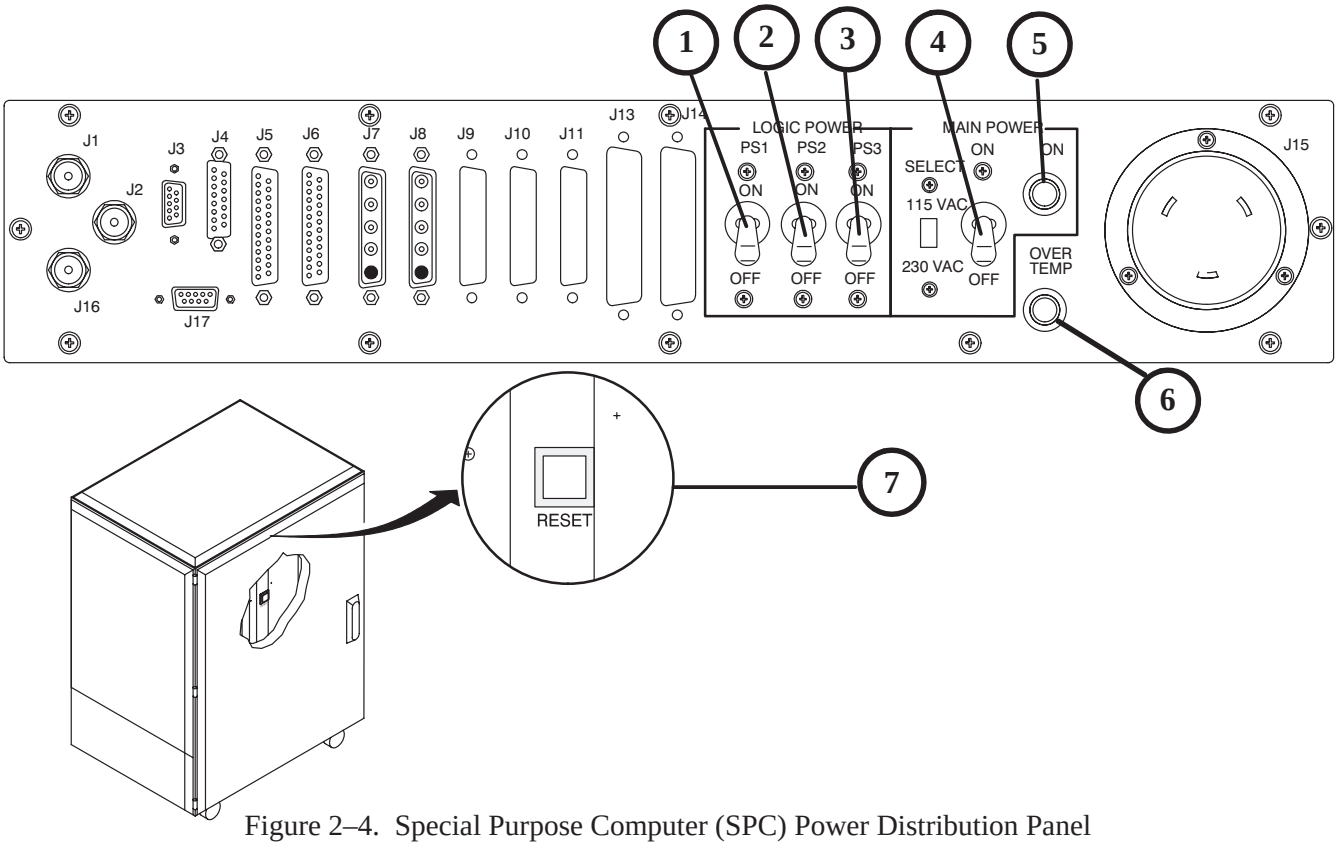


Figure 2–4. Special Purpose Computer (SPC) Power Distribution Panel

Key	Control or Indicator	Function
1	LOGIC POWER PS1 ON/OFF circuit breaker	ON/OFF control for Power Supply 1.
2	LOGIC POWER PS2 ON/OFF circuit breaker	ON/OFF control for Power Supply 2.
3	LOGIC POWER PS3 ON/OFF circuit breaker	ON/OFF control for Power Supply 3.
4	MAIN POWER ON/OFF circuit breaker	Provides overload protection and ac power ON/OFF control for SPC cabinet.
5	MAIN POWER ON indicator	Lights green when power is available and MAIN POWER circuit breaker (4) is set to ON (up) position. **CAUTION** **If OVER TEMP indicator is lit prior to equipment power–up, do not power–up system. If indicator lights during operation, notify Field Service Representative.**
6	OVER TEMP indicator	Lights red when an overtemperature condition exists in SPC cabinet.
7	RESET Pushbutton	When pressed, restarts the image generator.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.5 POWER PANEL

The Power Panel houses the On/Off control and overload protection circuit breakers. Circuit breakers in this panel must be checked for their correct setting prior to system power–up and after system power–down.

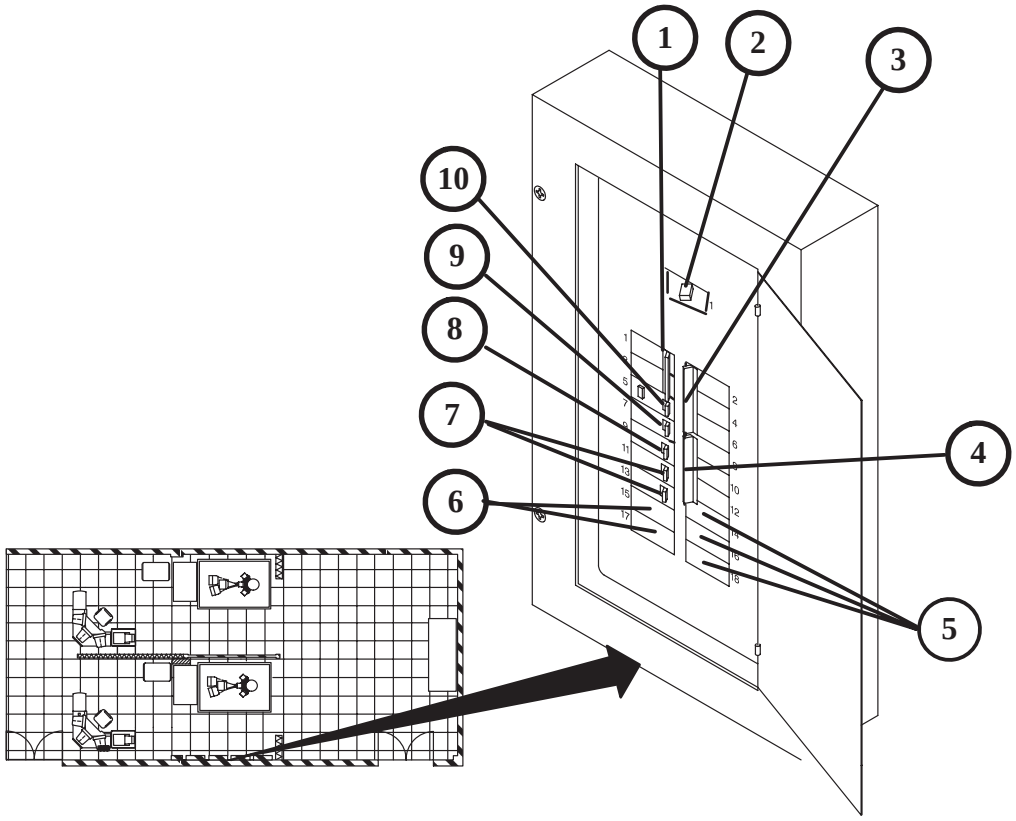


Figure 2–5. Power Panel

Key	Control or Indicator	Function
1	Circuit Breakers CB1 and 3	On/Off control and overload protection for 208 volts ac, 1–phase power to SPC.
2	Main Circuit Breaker	On/Off control and overload protection for 208 volts ac, 3–phase power to Power Panel
3	Circuit Breakers CB2, 4 and 6	On/Off control and overload protection for 208 volts ac, 1–phase power to Electronic Interface Unit.
4	Circuit Breakers CB8, 10 and 12	Not used.
5	Circuit Breakers CB14, 16 and 18	Not used.
6	Circuit Breakers CB15 and 17	Not used.
7	Circuit Breakers CB11 and 13	On/Off control and overload protection for 208 volt ac, 1–phase power to PAAR.
8	Circuit Breaker CB9	On/Off control and overload protection for 120 volts crew station Fire Alarm Panel.
9	Circuit Breaker CB7	On/Off control and overload protection for 250 volts ac, 1–phase power to General Purpose Computer.
10	Circuit Breaker CB5	On/Off control and overload protection for 120 ac power to IOS electronics.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.6 ELECTRONIC INTERFACE DEVICE (EID) UNIT

The EID provides the interface between the GPC and crew station switches, indicators and controls. (See Chapter 6 Operation Under Usual Conditions) for power–up procedures.

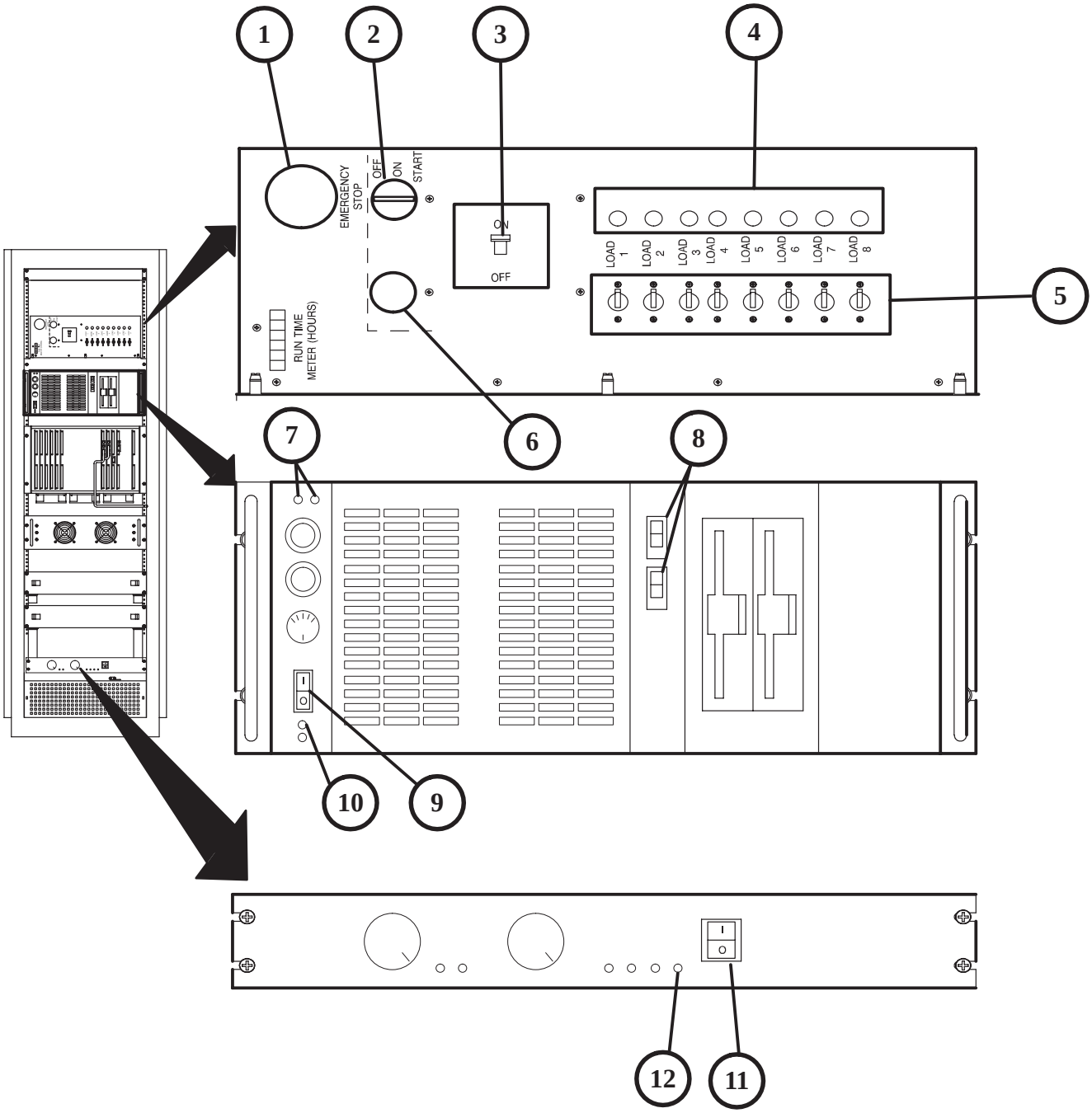


Figure 2–6. Electronic Interface Device (EID) Unit

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	EMERGENCY STOP pushbutton	Emergency use only. When pressed, trips EID Main On/Off circuit breaker and removes ac power from EID.
2	OFF/ON/START keyswitch	Three position switch: OFF — Removes electrical power from EID. ON — Normal operating position for EID unit. START — Place keyswitch in this position momentarily to initiate EID start–up sequence.
3	Main Power ON/OFF circuit breaker	On/off control and overload protection for unit.
4	LOAD On indicators 1 through 8	Lights red when power is available and keyswitch (2) is in ON position.
5	LOAD On/Off circuit breakers 1 through 8	On/Off control and overload protection for LOAD ac power circuits 1 through 8.
6	Power On indicator	Lights red when ac power is available and keyswitch (2) is in ON position.
7	Disk drive indicator	Lights intermittently while computer hard drives are in operation.
8	RESET pushbuttons	When pressed, reboots GCDP and CDU computers. Currently not used by AGTS.
9	Power switch	On/off control for AGTS GCDP and CDU computers.
10	On indicator	Lights green when keyswitch (3) and Power switch (9) are in ON position.
11	ON indicator	Lights green when power is available to the sound system and keyswitch (2) and rocker switch (14) are set to ON position.
12	POWER On/Off rocker switch	On/off control for AGTS crew station sound system.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.7 LASER PRINTER

There are five laser printers on the AGTS; one at each IOS and one at the Pre–Brief/After Action Reviewer (PAAR) station. The printers respond to commands entered on the terminal keyboard at the IOS or the PAAR station. When the I/O requires a paper printout of training data, the I/O enters a “print” command at the terminal keyboard.

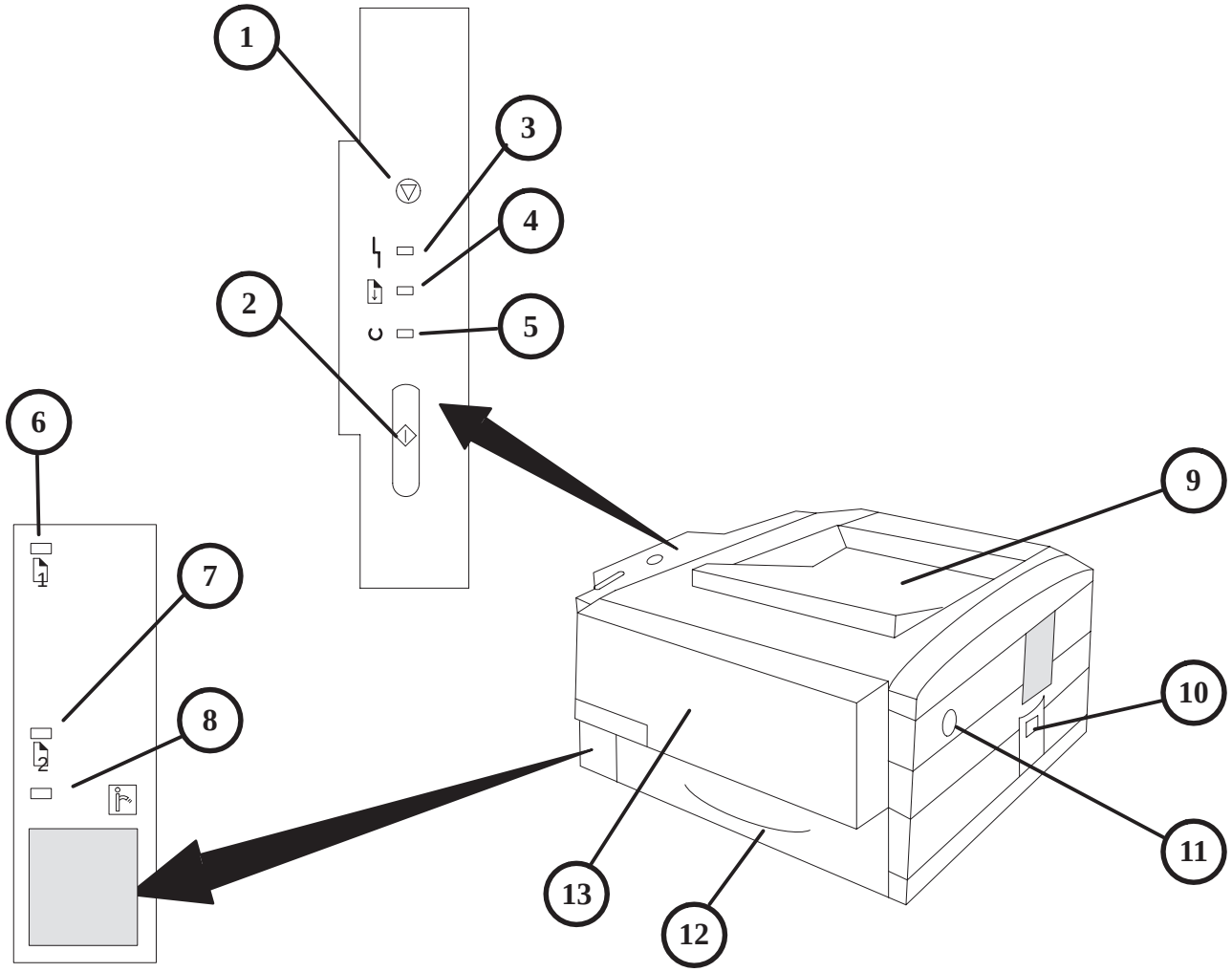


Figure 2–7. Laser Printer

Key	Control or Indicator	Function
1	Job Cancel pushbutton	Resets the printer by cancelling all printer jobs.
2	Go pushbutton	When pressed, will resume paused print jobs (indicated by the Data and Ready indicators being lit), print a demo page, or clear some printer errors.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	Error indicator	Lights red whenever an error is detected.
4	Data indicator	Lights green when printer is receiving data and/or printing.
5	Ready indicator	Light green when the printer is ready for printing.
6	Tray 1 Status indicator	Not required for AGTS operation.
7	Tray 2 Empty indicator	Lights orange when tray is empty or when tray is not inserted into the printer properly.
8	Inferred indicator	Not required for AGTS operation.
9	Output tray	Printed document collection point.
10	Power ON/OFF push button	Printer ON/OFF push button.
11	Printer cover release switch	Releases the printer cover to provide access to the toner cartridge.
12	Paper tray	Holds 250 sheets of paper.
13	Multipurpose feeder tray	Not required for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.8 DISPLAY (SITUATION) MONITOR

Display monitors are output devices for alphanumeric information sent from the GPC. There are two types of display monitors at the Instructor/Operator Station (IOS). One monitor is described by callouts 1 – 4, the second display monitor is described by callouts 5–11.

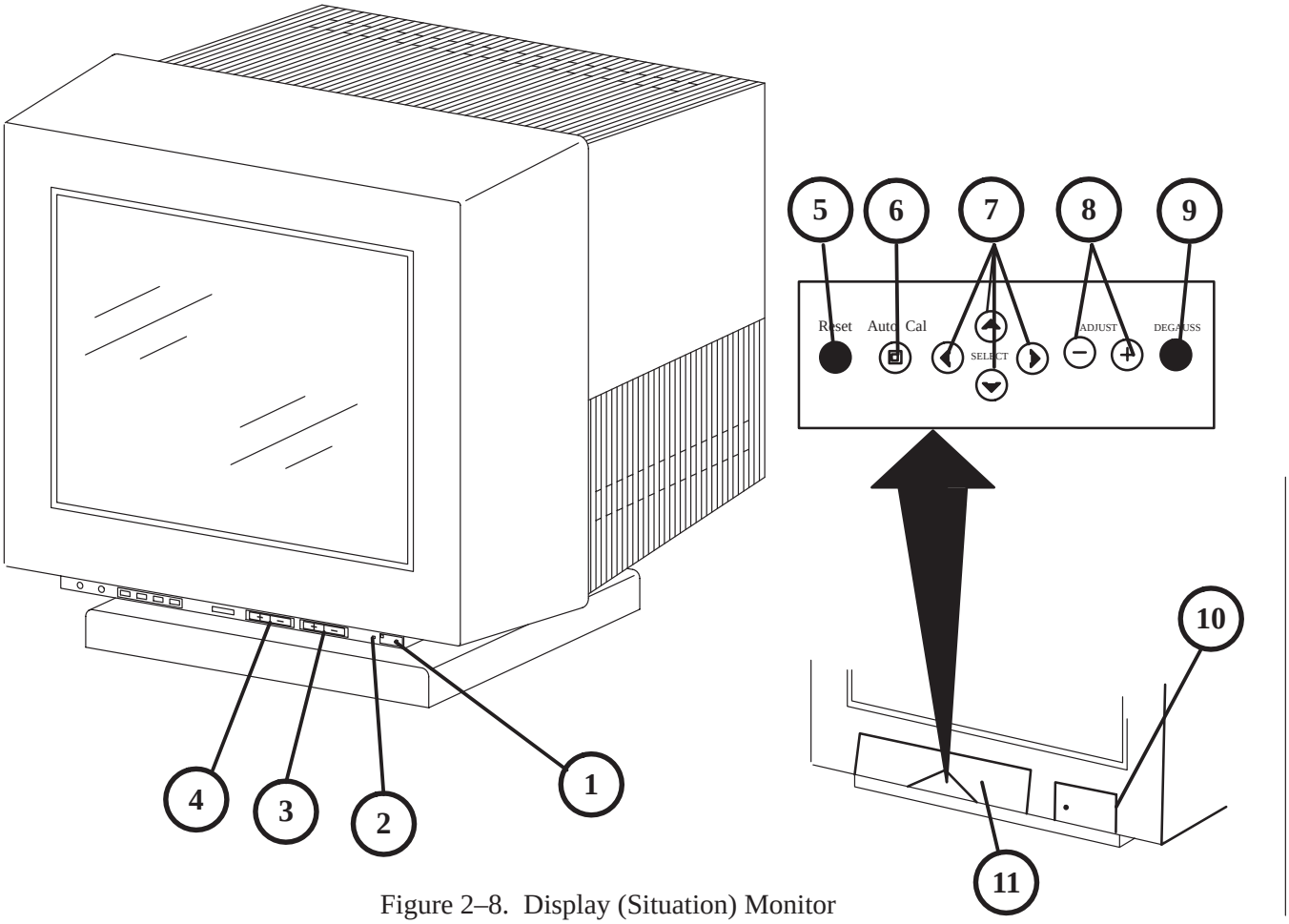


Figure 2–8. Display (Situation) Monitor

Key	Control or Indicator	Function
1	On/Off pushbutton	On/Off control for display monitor.
2	On indicator	Lights green when On/Off pushbutton is On.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	Contrast – / + pushbutton	Press + pushbutton to increase contrast; press – pushbutton to decrease contrast.
4	Brightness – / + pushbutton	Press + pushbutton to increase brightness; press – pushbutton to decrease brightness.
5	RESET pushbutton	Not required for AGTS operation.
6	OFF pushbutton	When pressed, causes the on–screen menu to disappear.
7	SELECT arrow pushbutton	When left or right arrow(s) is pressed, permits the operator to page through the three page functional displays that appear automatically on the terminal screen. When Up or Down arrow(s) are pressed, permits the operator to highlight an option on one of the three display pages.
8	–/+ ADJUST pushbutton	Press the (+) pushbutton to increase contrast or brightness. Press the (–) pushbutton to decrease contrast or brightness.
9	DEGAUSS pushbutton	When pressed, demagnetizes the monitor.
10	On/Off pushbutton	On/Off control for Display Monitor. On indicator lights green when monitor's power is On.
11	Monitor controls	Holds controls and indicators for situation monitor. Press to open.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.9 IOS TRAINING MONITOR

There are two types of IOS Training monitors on the AGTS system. One type is described below and is used for monitoring the gunner's sights, the commander's sights, and the CDU display (see Figure 2–1 (1), (2), and (5). The second IOS Training monitor is described on page 2–18 and is used to monitor the CITV. These monitors are used to replicate the training data base and control panels as viewed by the crew in the crew station.

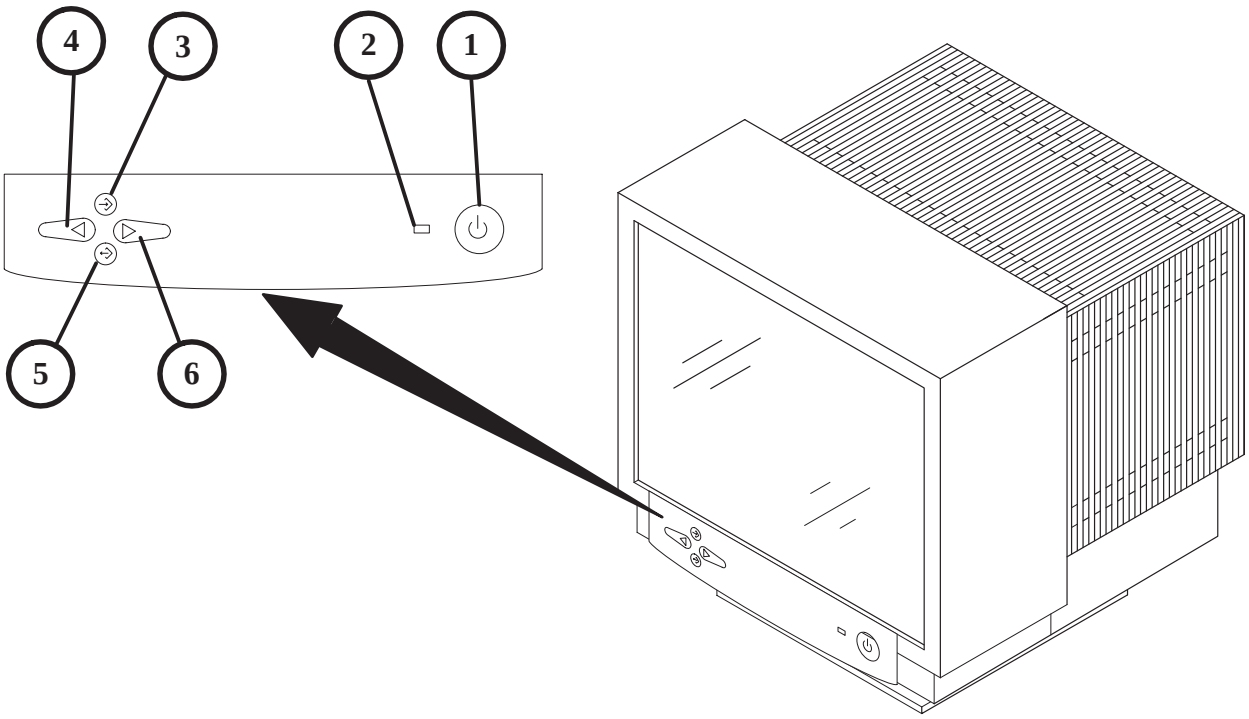


Figure 2–9. IOS Training Monitor

Key	Control or Indicator	Function
1	Power pushbutton switch	**CAUTION** **To prevent possible damage to monitors, do not select Degauss option a second time or cycle monitor power for at least 30 minutes.** ON/OFF control for Gunner's or Commander's monitor.
2	ON indicator	Lights green when ON/OFF pushbutton switch is set to ON position.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	→ pushbutton	Used to access adjustment menu and to select menu options.
4	◁ pushbutton	Used to move cursor in adjustment menu and to decrease values of selected menu items.
5	↔ pushbutton	When pressed, hides the adjustment menu.
6	▷ pushbutton	Used to move cursor in adjustment menu and to increase values of selected menu items.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.10 IOS TRAINING MONITOR (CITV)

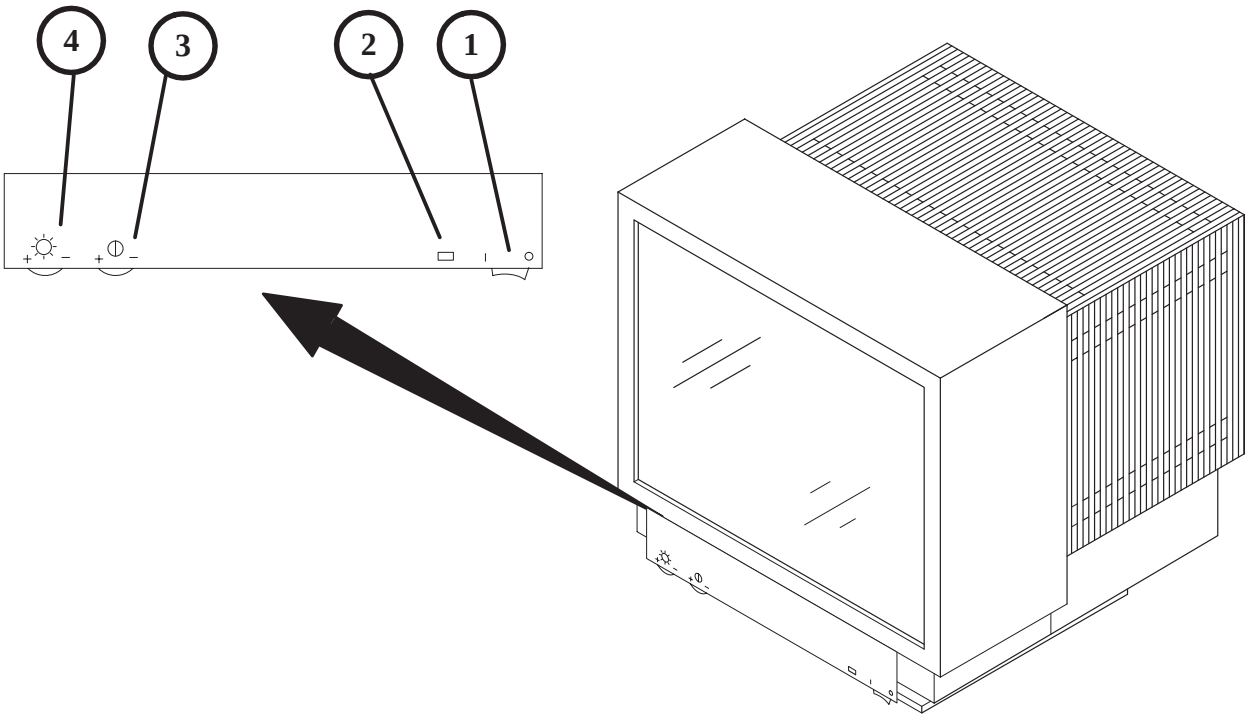


Figure 2–10. IOS Training Monitor (CITV)

Key	Control or Indicator	Function
1	Power rocker switch	**CAUTION** **To prevent possible damage to monitors, do not cycle monitor power for at least 30 minutes.** ON/OFF control for CITV monitor.
2	ON indicator	Lights green when ON/OFF rocker switch is set to ON position.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	◐ adjustment knob	Used to adjust monitor contrast.
4	☼ adjustment knob	Used to adjust monitor brightness.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.11 POWER MONITOR PANEL

The power monitor panel contains a 24 Vdc power supply connected to sense over/under voltage, phase loss, and phase reversal conditions.

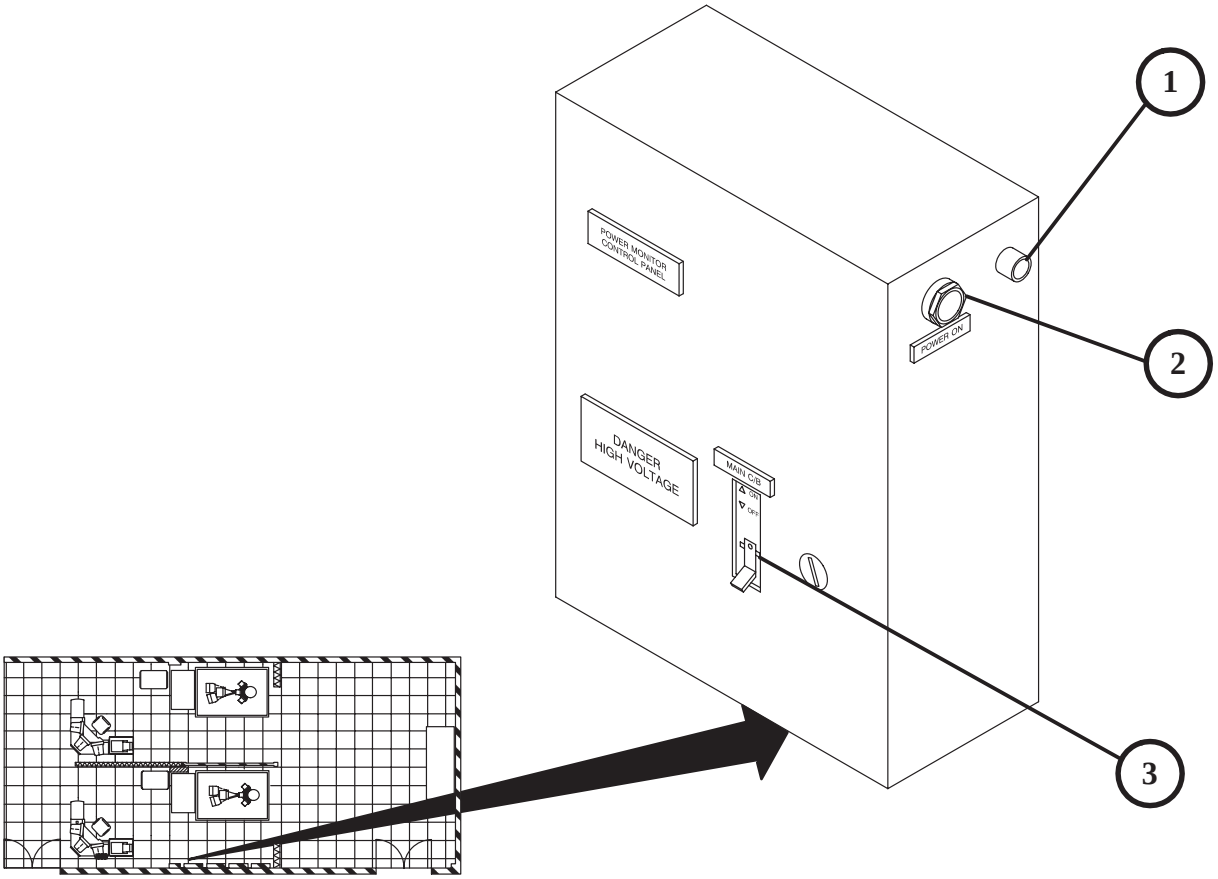


Figure 2–11. Power Monitor Panel

Key	Control or Indicator	Function
1	Fuse holder	Organizational maintenance replaces any fuses.
2	Power Monitor Panel ON indicator	Lights green when power 208 volts ac, 3–Phase power is active on AGTS system components.
3	POWER ON/OFF circuit breaker	On/Off control and overload protection for 208 volts ac, 3–Phase power for AGTS system components.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.12 IOS COMMUNICATION CONTROL BOX

The communication control box enables the instructor/operator to communicate with the crew members inside the crew station during crew mode when the selector is set to “CREW” position. During platoon mode the instructor can communicate; on platoon net when selector switch is set to “PLATOON” position; on company net when selector is set to “COMPANY” position, and on instructor net when selector is set to “INSTR” position. The instructor can hear all communications regardless of what net is selected.

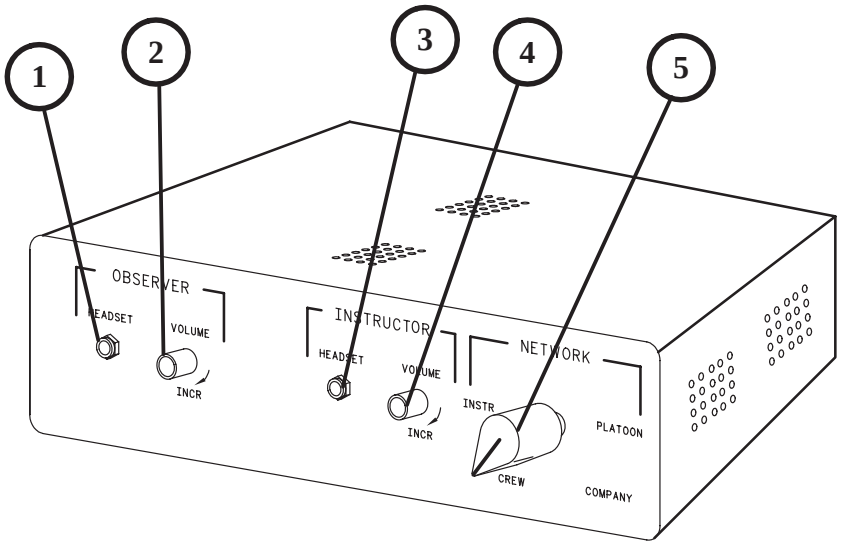


Figure 2–12. IOS Communication Control Box

Key	Control or Indicator	Function
1	OBSERVER headset jack	Connection for Observer’s headset.
2	VOLUME INCR knob	Adjusts the volume of Observer’s headset.
3	INSTRUCTOR HEADSET jack	Connection for Instructor’s headset.
4	VOLUME INCR knob	Adjusts the volume of Instructor’s headset.
5	NETWORK select knob	Permits I/O selection of INSTR (instructor), CREW, COMPANY, or PLATOON for communication before, during, or after training.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.13 IOS TERMINAL KEYBOARD

The terminal keyboard is used to input alpha–numeric/numeric data during system power–up, crew or platoon training, and system power–down.

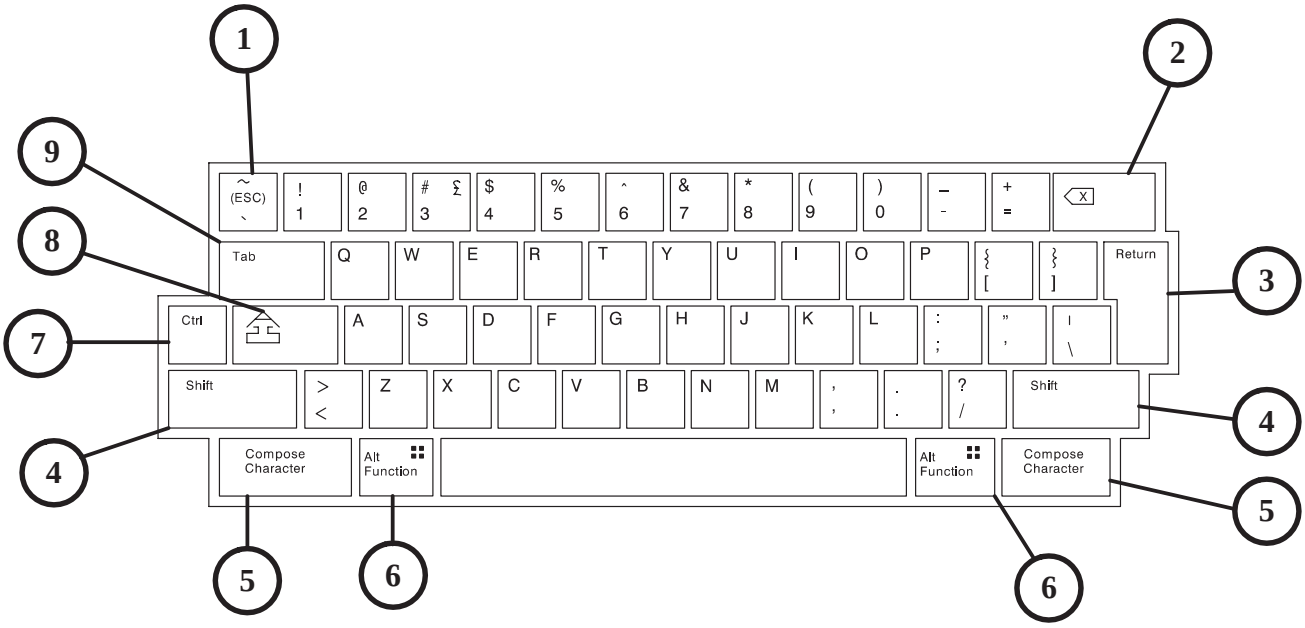


Figure 2–13. IOS Terminal Keyboard

Key	Control or Indicator	Function
1	(ESC) key	Not used for AGTS operation.
2	⟨X⟩ Back arrow key	Deletes previously entered character.
3	Return key	Used to activate command just typed and sends main keypad entries to the GPC.
4	Shift key	When pressed, enables uppercase function of all keys.
5	Compose Character key	Not used for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	Alt Function key	During training if the mouse is not operational, the I/O can activate an option by pressing the Alt key and the underline letter (ie; File) of the option(s) to perform system functions.
7	Ctrl key	Used in conjunction with C or Y keys to interrupt a command process.
8	key	When pressed, locks keyboard in uppercase function.
9	Tab key	Not used for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.14 IOS TERMINAL NUMERIC KEYPAD

The IOS Terminal Numeric Keypad is used to enter commander's verbal commands during crew and platoon training.

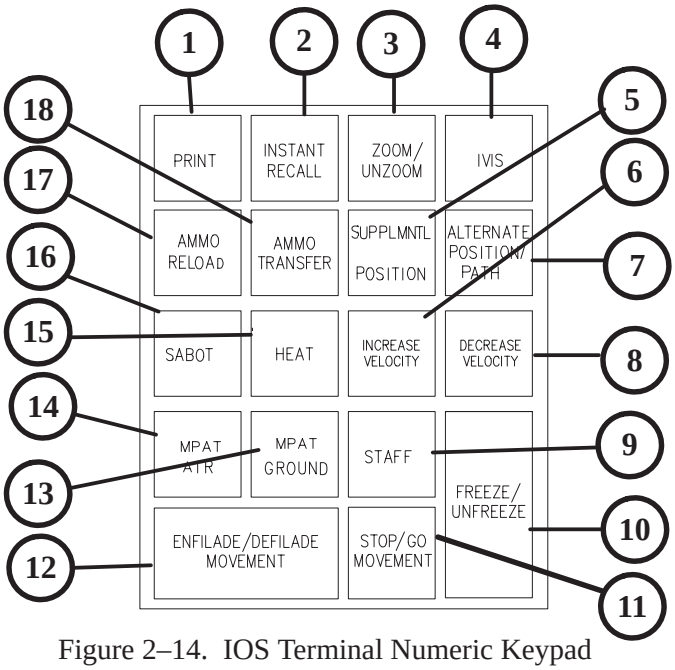


Figure 2–14. IOS Terminal Numeric Keypad

Key	Control or Indicator	Function
1	PRINT key	When pressed during Freeze mode, Situation Monitor or Performance Analysis prints to the Terminal Printer.
2	INSTANT RECALL key	Pressing key, while in FREEZE mode, produces an instant replay of the prior 120 seconds of training.
3	ZOOM/UNZOOM key	Pressing key, during Instant Recall, zooms scenes in both crewman sights and training monitors at the IOS. Pressed again, unzoom scenes.
4	IVIS key	When pressed, allows the I/O to access spot reports that may be read to the crew.
5	SUPPLMNTL (Supplemental) POSITION key	Activation of key, when in defilade position, causes owntank to follow preprogrammed path from current position to supplemental position, laterally, at least 75 meters, and then stops at the new defilade position. Subsequent activation of the ENFILADE/DEFILADE key causes owntank to move to enfilade position. Platoon mode only.
6	INCREASE VELOCITY key	When pressed, while tank is moving, tank speed increases 5 mph for each subsequent time key is pressed. The maximum velocity allowed is 50 mph. Platoon mode only.
7	ALTERNATE POSITION key	In defense situations, if ownvehicle is in defilade position and key is pressed, owntank will follow a preprogrammed path laterally at least 25 meters, and stop in defilade at the alternate firing position. When ENFILADE/DEFILADE key is pressed, owntank moves to enfilade position.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
7	ALTERNATE POSITION/PATH key	In offense situations, when key is pressed, ownvehicle follows a preprogrammed path laterally at least 50 meters, then returns to original path.
8	DECREASE VELOCITY key	When pressed while tank is moving, tank speed is decreases 5 mph each time the key is pressed. The minimum velocity allowed is 5 mph. Platoon mode only.
9	STAFF key	Currently not used on AGTS.
10	FREEZE/UNFREEZE key	Keypad option halts a running exercise and remains in position at the moment of freeze. Pressing FREEZE/UNFREEZE key a second time, unfreezes scenes to allow exercise continuation. In the platoon mode, only the I/O at the platoon leader IOS can unfreeze an exercise.
11	STOP/GO MOVEMENT key	Pressing this key while owntank is moving, owntank comes to a normal stop. When owntank is stopped, activation of the key again will cause owntank to continue its programmed movement. During platoon mode, this key will not be active during a defensive engagement. When key is pressed, pop–up prompt “Do you really want to activate Stop/Go” appears (see Figure 2–23). Operator must select yes before ownvehicle will move out.
12	ENFILADE/DEFILADE MOVEMENT key	Pressing this key, when owntank is stationary, in the defilade position, causes owntank to move to enfilade position. Press key again, when owntank is stationary, in the enfilade position, causes owntank to move to defilade position.
13	MPAT GROUND key	Pressed to enter and log commander’s verbal ammo select commands during real–time training.
14	MPAT AIR key	Pressed to enter and log commander’s verbal ammo select commands during real–time training.
15	HEAT key	Pressed to enter and log commander’s verbal ammo select commands during real–time training.
16	SABOT key	Pressed to enter and log commander’s verbal ammo select commands during real–time training.
17	AMMO RELOAD key	Activation of AMMO RELOAD key, followed by an ammo select key within five seconds of main gun firing, will cause the previously selected ammo type to unload and the current ammo selection to load. There will be a 20 second delay before main gun trigger can be activated or AMMO RELOAD key and ammo select keys are active.
18	AMMO TRANSFER key	When pressed, AMMO TRANSFER menu appears on terminal screen (see page 2–66).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.15 IOS TERMINAL TOP–ROW FUNCTION KEYS

The terminal top–row function keys indicated are used to enter commander's verbal commands during crew and platoon training.

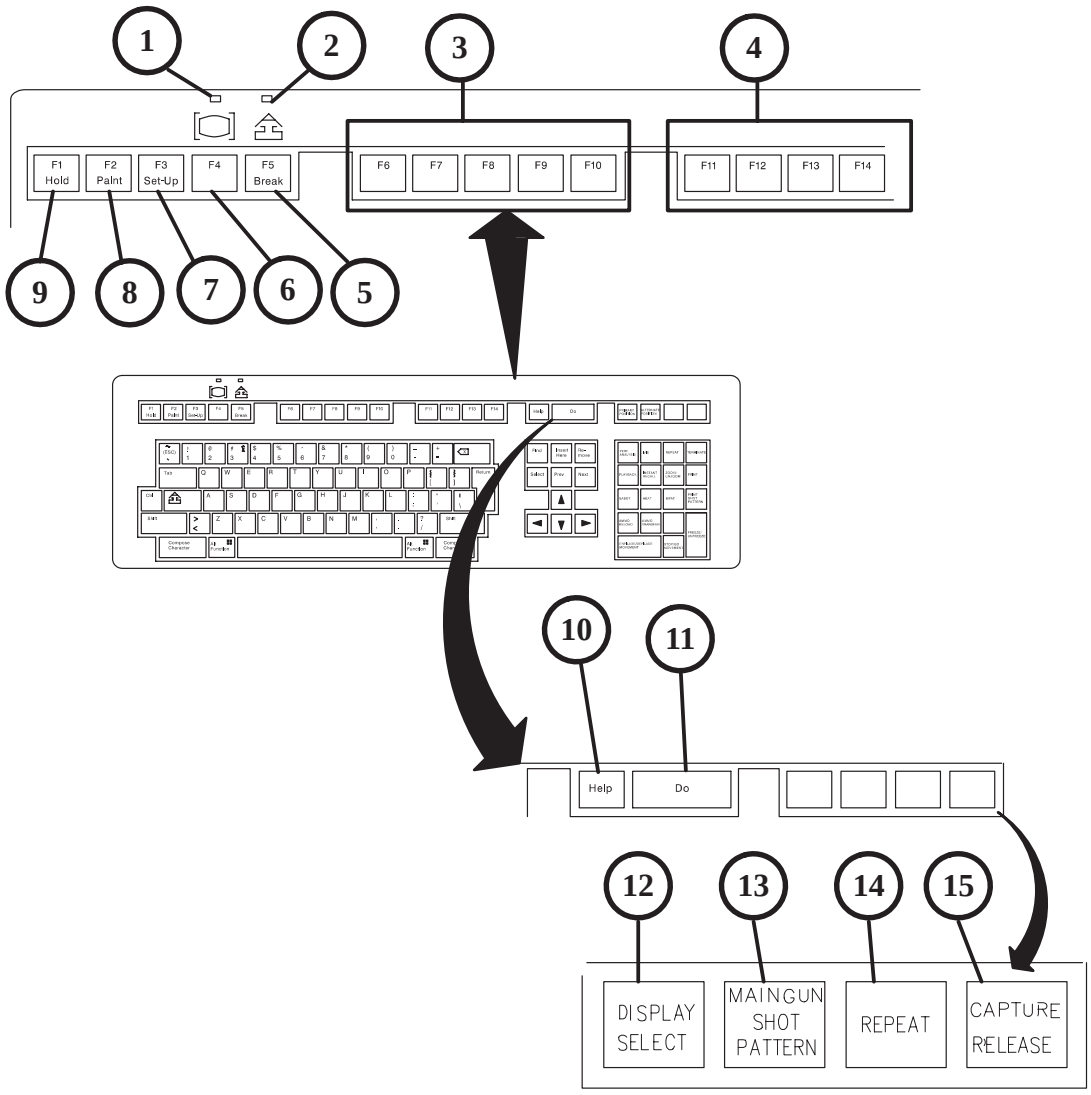


Figure 2–15. IOS Terminal Top–Row Function Keys

Key	Control or Indicator	Function
1	Hold Screen indicator	Not used for AGTS operation.
2	Shift lock indicator	Lights green when shift lock key (see page 2–22) is pressed.
3	F6, F7, F8, F9 and F10 keys	Not used for AGTS operation.
4	F11, F12, F13 and F14 keys	Not used for AGTS operation.
5	Break key	Not used for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	F4 key	Not used for AGTS operation.
7	F3 Set–Up key	Not used for AGTS operation.
8	F2 Paint key	Not used for AGTS operation.
9	F1 Hold key	Not used for AGTS operation.
10	Help key	Not used for AGTS operation.
11	Do key	Not used for AGTS operation.
12	DISPLAY SELECT key	When pressed in freeze mode, the Situation Monitor or the Performance Analysis display page appears on the terminal screen.
13	MAIN GUN SHOT PATTERN key	When pressed, a copy of Main Gun Shot Pattern prints at the Laser Printer.
14	REPEAT key	Keypad option used during an exercise Freeze condition to reset system for a repeat of the same exercise. The exercise will restart commencing with the Initialization page (see page 2–40).
15	CAPTURE/RELEASE key	Not used for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.16 IOS TERMINAL EDITING KEYPAD

IOS Terminal Editing Keypad is use to terminate training and logs commanders verbal commands during platoon mode training.

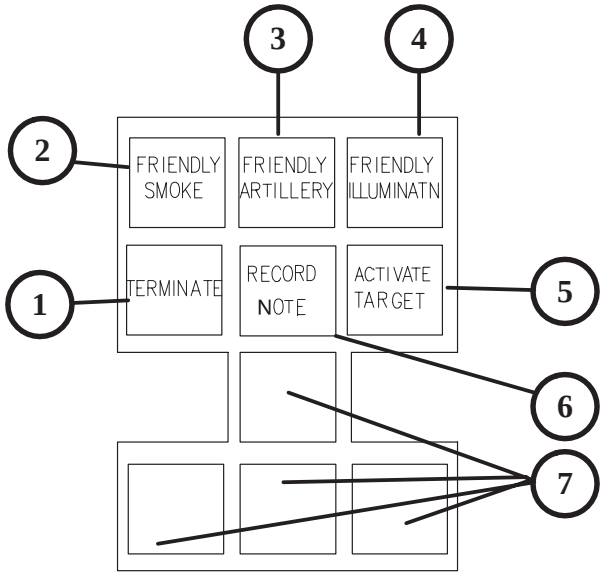


Figure 2–16. IOS Terminal Editing Keypad

Key	Control or Indicator	Function
1	TERMINATE key	Press during freeze mode to exit an exercise.
2	FRIENDLY SMOKE key	Press during training, friendly smoke screen will be created between ownvehicle and enemy targets. This key is active in platoon mode only.
3	FRIENDLY ARTILLERY key	Press during training, simulated friendly artillery rounds will fall to the front of ownvehicle. Key is active in platoon mode only.
4	FRIENDLY ILLUMINATION key	Press during training, target area illuminates. Key is active in platoon mode only.
5	ACTIVATE TARGET key	Press during training, activation of available targets occurs. Key is active at the Leaders IOS in platoon mode only. When targets are available for activation, the “Activate Target” icon will become highlighted.
6	RECORD NOTE key	When pressed, will mark a location during training for the I/O to record a training comment reference to be replayed during crew debriefing. Key is active in platoon mode only.
7	Blank keys	Not used for AGTS operation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

SECTION II. IOS Crew Mode Displays And Printouts

2.17 CREW IOS USER LOG–IN DISPLAY PAGE

This display page is displayed automatically after system power–up or after “Exit Training” is selected from the Mode Select display page. This display permits the user to log–in to AGTS training, system diagnosis, and system power–down.

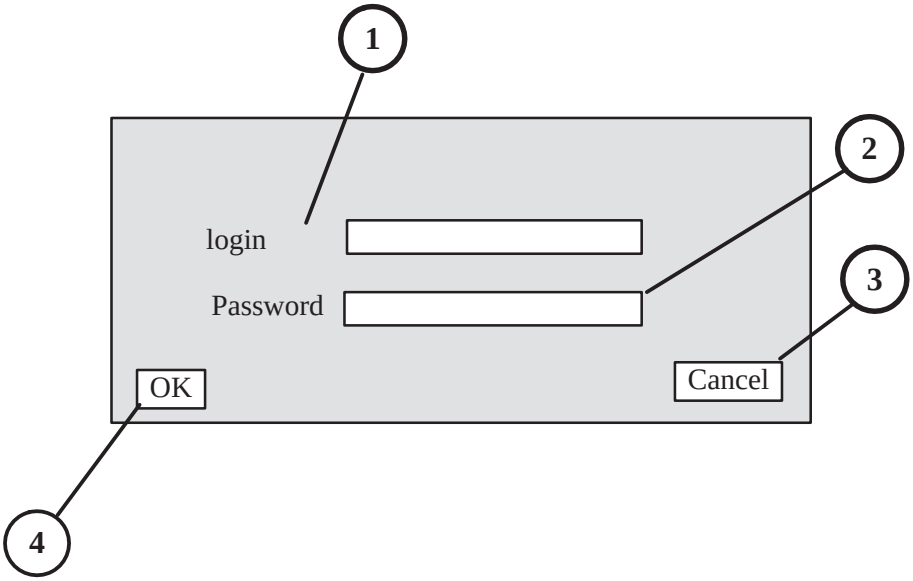


Figure 2–17. Crew IOS User Log–in Display Page

Key	Control or Indicator	Function
1	login: field	The login: field is a request for the user to type in one of the AGTS user accounts: “crew” for training or “manager” for record management. Platoon training log–in (see page 2–91).
2	Password: field	Requests user to enter password using keyboard. Entered password will not appear on display.
3	Cancel button	When highlighted, press Return key or use the mouse to cancel Username or Password data field.
4	OK button	When “OK” button is highlighted, the I/O can press the Return key on terminal keyboard or use the mouse to click on “OK” to confirm the entry.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.18 CREW MODE SELECT DISPLAY PAGE

The Mode Select display page is automatically displayed on terminal screen after the User Log–in procedure is completed. The display allows the user to select desired mode of operation: “Start Training” option permits training initialization and selection of training exercise; “Training Management” option permits the operator to review and print crew records; “Hardware Diagnostic” option ensures operability of the system; and “Exit Training” option allows I/O to terminate training and/or perform system shutdown.

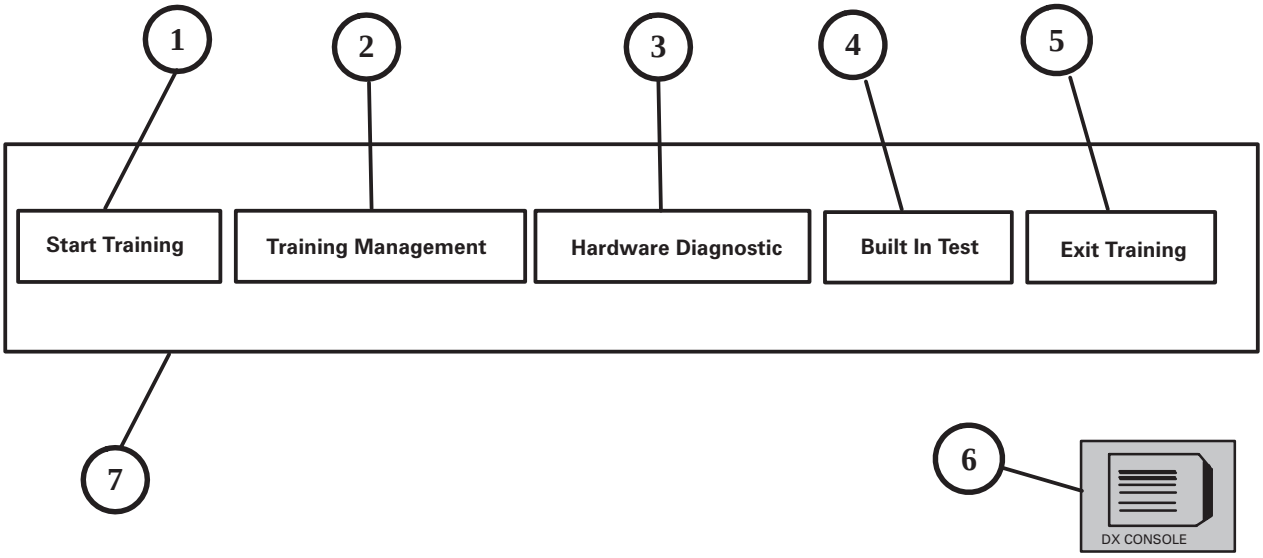


Figure 2–18. Crew Mode Select Display

Key	Control or Indicator	Function
1	Start Training option	When selected, permits the I/O to initialize training.
2	Training Management option	When selected, permits the I/O to review, print crew records or backup crew records.
3	Hardware Diagnostic option	When selected, permits the I/O to perform diagnostic procedures (see page NO TAG).
4	Built In Test option	When selected, initialize system Built–In–Test (BIT).
5	Exit Training option	When selected, initializes system log–off process and system shutdown.
6	DX Console prompt	Appears at the lower right portion of the terminal screen. Not required for AGTS operation.
7	Mode Select border	While conducting training if the Graphic Users Interface screen(s) locks up, place the mouse cursor on the border of the “Mode Select” display. Then, press and hold down the right mouse button. With the right mouse button still depressed, move the mouse cursor over the “Close” option on the Pop–up window and release the right mouse button.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.19 HARDWARE DIAGNOSTIC DISPLAY PAGE

The Hardware Diagnostic display page is displayed when “Hardware Diagnostic” is selected from the Mode Select page. This display provides the following options:

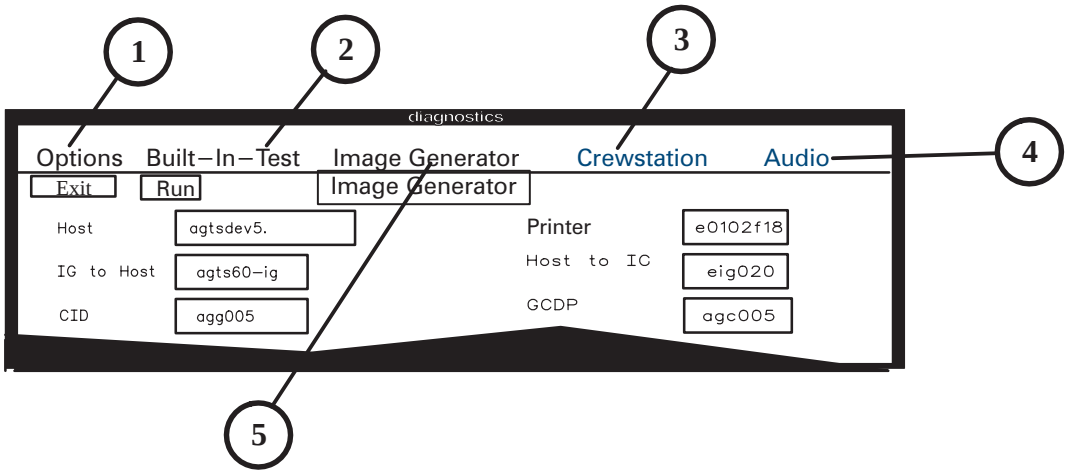


Figure 2–19. Hardware Diagnostic Display Page

Key	Control or Indicator	Function
1	Options Exit option	When selected, the “Exit” option appear. When the “Exit” option is selected, Mode Select display page reappears on terminal screen.
2	Built–In–Test Run option	When selected, the “Run” options appears. When “Run” options is selected, the built–in–test will load. During Platoon mode training, ensure that the Pre–briefing/After Action Reviewer station is powered up before attempting to run the built–in–test.
3	Crewstation option	Not required for AGTS operation.
4	Audio option	Not required for AGTS operation.
5	Image Generator prompt	During Image Generator reboot process, visual scenes on training monitors are removed. After approximately 8 to 10 minutes, the training scene reappears on the terminal screen. When system reboot is completed, select “Options”, “Exit” to return to Mode Select display page (See page 2–30).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.20 IOS BUILT–IN–TEST (BIT) AURAL CUES DISPLAY PAGE

The “Hardware Diagnostic” display page appears on the terminal screen after “Built–In–Test” has been selected from the Mode Select display page. At the completion of the “BIT” test, this display permits the operator to exit diagnostic test mode and recall the Mode Select display.

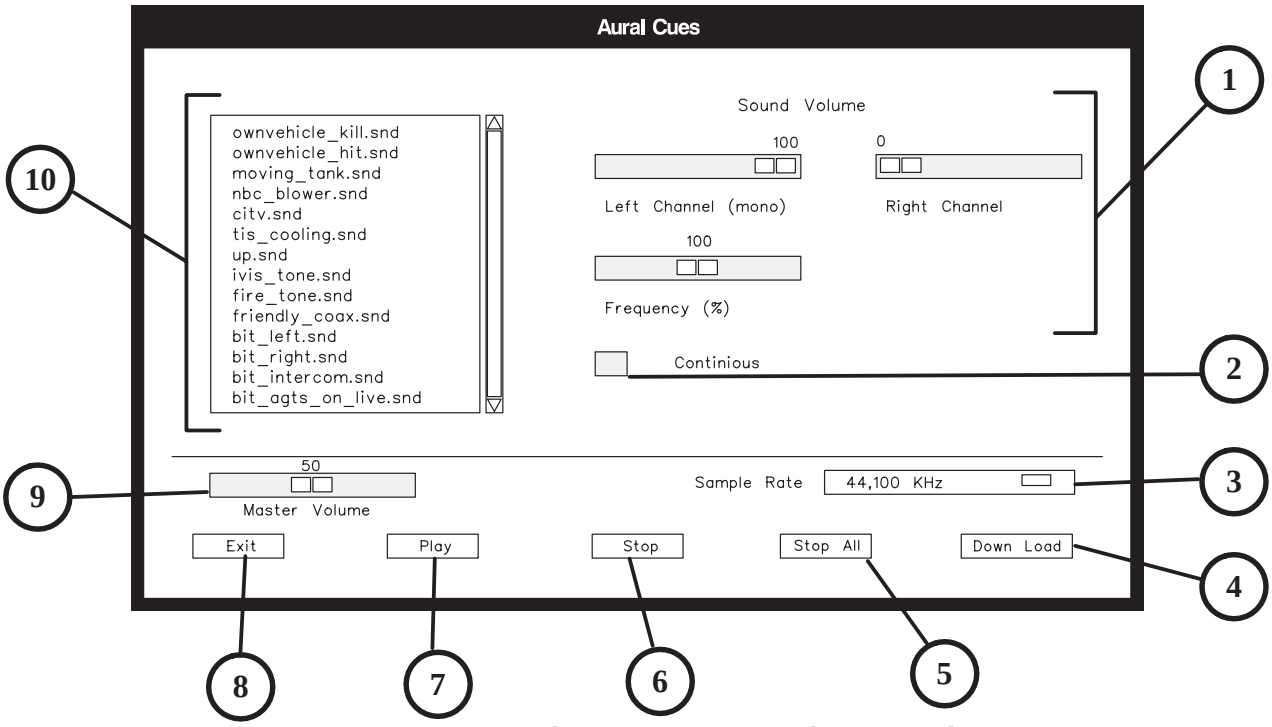


Figure 2–20. IOS Built–In–Test (BIT) Aural Cues Display

Key	Control or Indicator	Function
1	Sound Volume options	Field Service Representative (FSR) only and should not be adjusted by instructor operators.
2	Continuous option	When selected in conjunction with a sound loaded option, causes select option to play continuously.
3	Sample Rate option	Field Service Representative (FSR) only and not to be adjusted by instructor operators.
4	Down Load option	Field Service Representative (FSR) only and not to be performed by instructor operators.
5	Stop All option	Stops play mode when a sound option(s) has been selected to play continuously.
6	Stop option	Stops play mode when a sound option has been selected and play icon has been selected.
7	Play option	Play sound(s) that has been selected from call (9) above.
8	Exit option	Exits current display and Mode Select display page appears on terminal screen.
9	Master Volume option	Field Service Representative (FSR) only and not to be adjusted by instructor operators.
10	Sounds loaded complete options	Lists AGTS sounds when sound loading is complete.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.21 IMAGE GENERATOR (REBOOT) DISPLAY PAGE

Image Generator (Reboot) display page appears when “Image Generator’ is selected from the Hardware Diagnostic display page. This display page permits the operator to reboot (restart) the image generator and/or check Image Generator’s IG Status, Frame 2 Status, or Frame 3 Status.

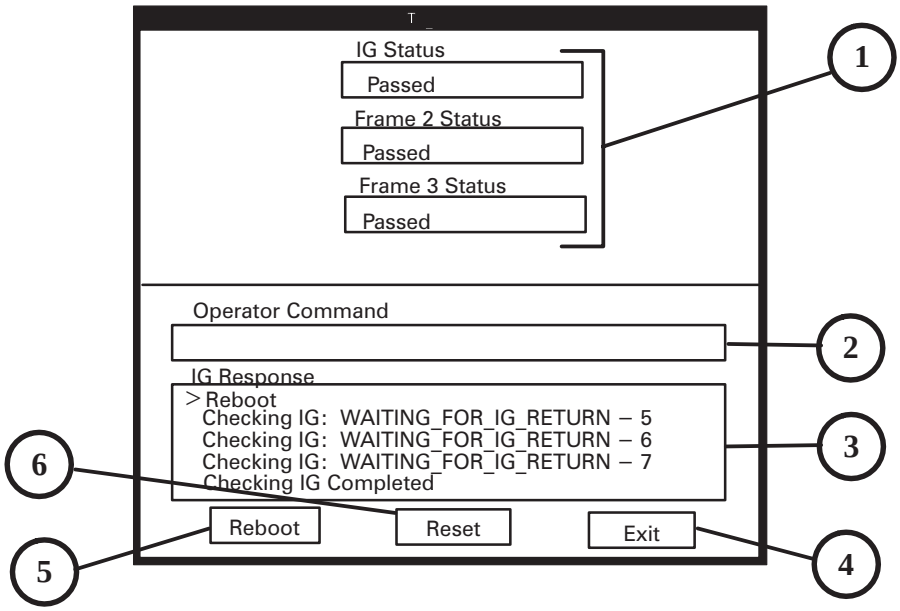


Figure 2–21. Image Generator (Reboot) Display Page

Key	Control or Indicator	Function
1	IG Status field	Displays IG Status as Passed or Failed.
	Frame 2 Status field	Displays Frame 2 Status as Passed or Failed.
	Frame 3 Status field	Displays Frame 3 Status as Passed or Failed.
2	Operator Command field	Not required for AGTS training. Field Service Representative (FSR) use only.
3	IG Response field	Displays all response(s) from the Image Generator (IG). When Reboot option (5) is selected, IG reboot process begins. “Reboot” will be displayed in this portion of the display screen. Additionally, after reboot process has been initiated, at sixty second intervals, “Checking IG: WAITING_FOR_IG_RETURN” prompt appears in this portion of display until the IG has completed reboot process. When reboot process is completed, prompt “Checking IG Completed” is displayed.
4	Exit option	When selected, dismisses Image Generator display page and Mode Select display page (see page 2–30) appears on terminal screen.
5	Reboot option	When selected, stops all IG processes and reinitializes the IG.
6	Reset option	Field Service Representative use only.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.22 OPTICAL IMPROVEMENT PROGRAM (OIP) GLARE PATTERNS DISPLAY PAGE

When the I/O selects “Start Training” from Mode Select display page and “Yes” from the “Do you wish run OIP exercises today” pop–up prompts (3), One of the OIP displays (1) or (2) shown below will appear on the CITV, GPS/GAS, and GPSE/UVB’s monitor screens. Patterns shown below will determine if OIP glare patterns should be loaded prior to conducting training.

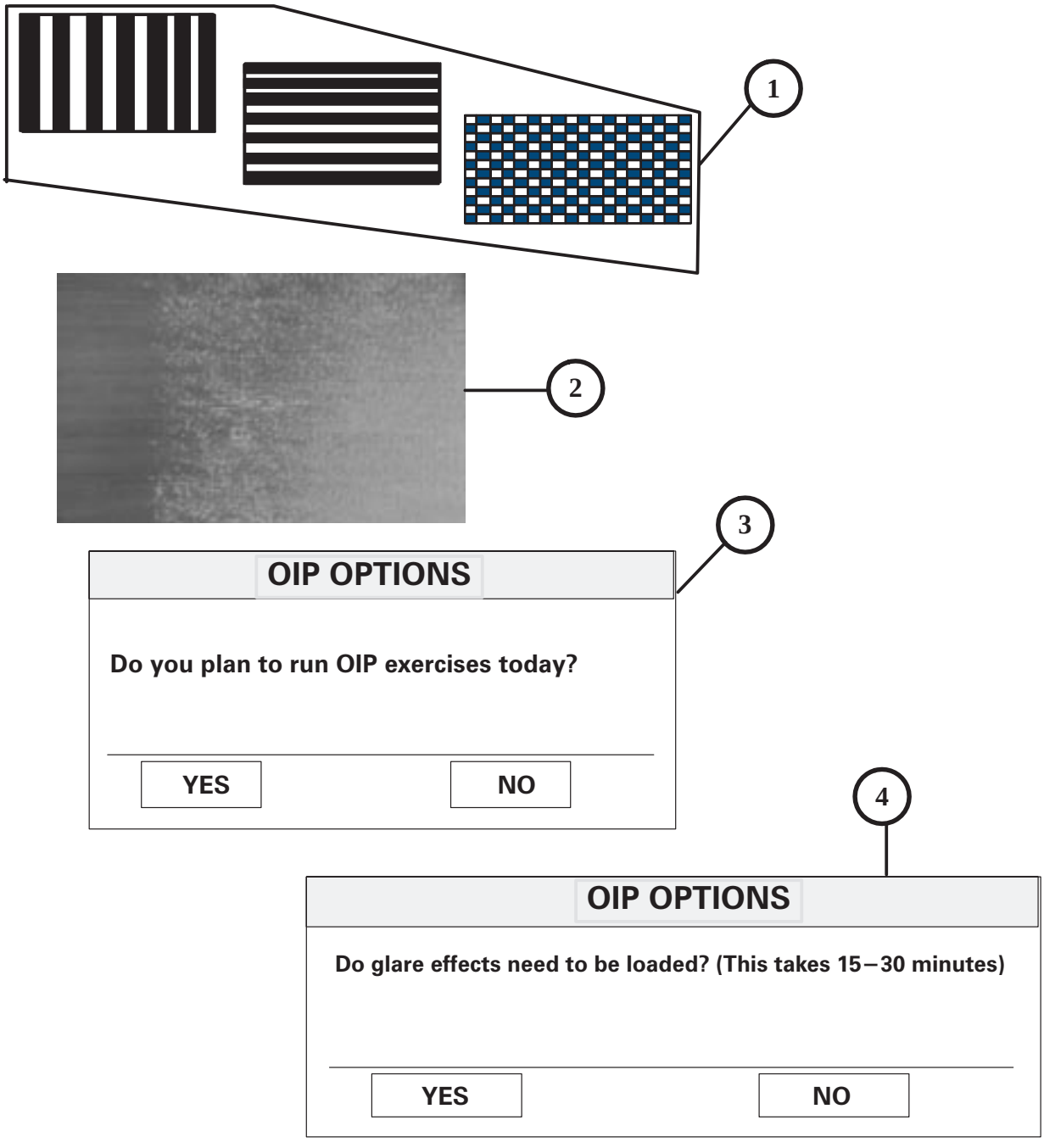


Figure 2–22. Optical Improvement Program (OIP) Glare Patterns Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	OIP not loaded patterns	When "Yes" is selected from the "Do you plan to run OIP exercises today?" pop–up prompt (3). One of the three patterns (1) will display on the CITV, GPS/GAS, and GPSE/UVB's monitor screens at the Instructor/Operator Station (IOS), indicating OIP glare effects pattern must be loaded prior to special purpose exercise training. If "NO" is selected, database will load as shown on Image Generator load display page (see page 2–38).
2	OIP loaded pattern	This pattern appears the CITV, GPS/GAS, and GPSE/UVB's monitor on screens after "YES" option has been selected from pop–up prompt (3), indicating OIP glare effects are NOT required to be loaded prior to special purpose exercise training. **NOTE** If "YES" option is selected from the "Do you plan to run OIP exercises today?" pop–up prompt (3), pop–up prompt (4) appears automatically on terminal screen.
3	Do you plan to run OIP exercises today?	Prompt appears on terminal screen automatically when "Start Training" is selected from Mode Select display page (see page 2–30). **NOTE** If the Instructor/Operator selects "Yes" for the "Load Glare Pattern" prompt (4), the Image Generator load process (see page 2–38) will be extended for approximately thirty minutes. Therefore, do not load OIP glare patterns unless they are required for training.
4	Do glare effects need to be loaded? (this takes 15–30 minutes)	Prompt appears on terminal screen automatically when "YES" option has been selected from "Do you plan to run OIP exercises today?" pop–up prompt (3). If "YES" is selected, OIP load process will complete loading in approximately thirty minutes. However, during the load process at five minutes intervals, the prompt "Database is still loading" appears on Image Generator load display page (see page 2–38). If "NO" is selected, database loads without delay as shown on Image Generator load display page (see page 2–38).

2.23 CONFIRMATION OPTION DISPLAY PAGE

The AGTS display numerous pop–up confirmation prompts during training. Below are some of the prompts that are displayed. All pop–up prompts are not called out in this handbook because in each case the prompts are self explanatory. Prompts listed are to give you a example of prompts encountered during training.

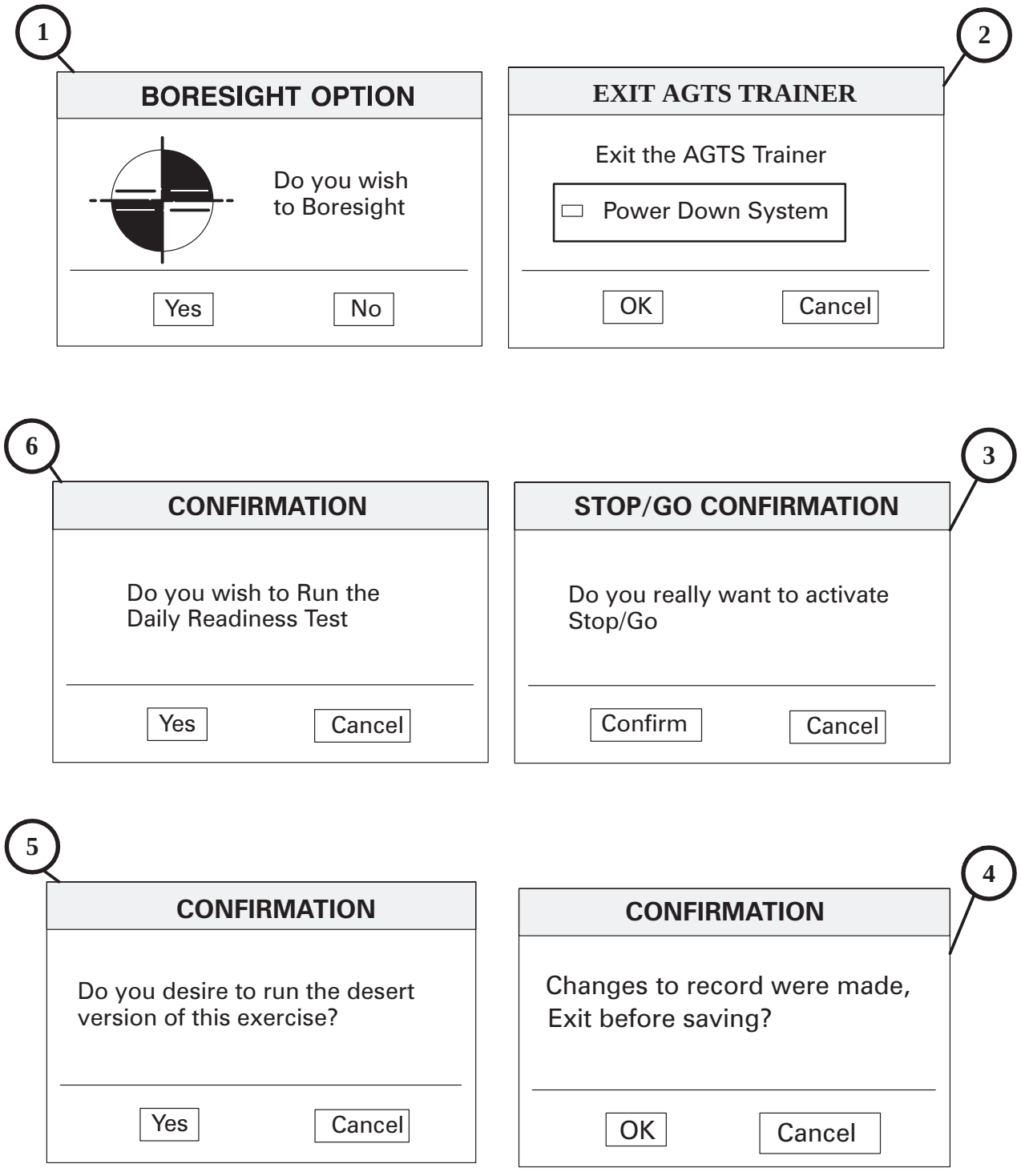


Figure 2–23. Image Generator (IG) Load Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	BORESIGHT OPTION (Confirmation) prompt	Appears during crew initialization for the I/O to select “Yes” or “No” preference to perform boresight procedures. I/O selects “Yes” options to perform boresight procedures or “No” to continue selecting options from initialization page.
2	Exit Training prompt	Appears when “Exit Training” is selected from Mode Select display page. If I/O selects “OK” option, system log–off is performed and the Crew or Platoon User Log–in display page will appear. To power–down the system from this display, select “Power System Down” button and “OK” option.
3	Changes were made to record Select new record anyway (Confirmation) prompt	Appears when changes have been made to Training Management System records. Prompt permits I/O to select a new record although changes were made to previously selected record(s).
4	Changes to record were made (Confirmation) prompt	Appears changes have been made to Training Management System records. Prompt permits I/O to exit without saving, if desired.
5	Do you desire to run desert version of this exercise? (Confirmation) prompt	Appears during exercise selection if “NO” is selected, the European database is automatically selected.
6	Do you wish to Run the Daily Readiness Test (Confirmation) prompt	Appears when “Daily Readiness” is selected by I/O from Initialization display page.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.24 IMAGE GENERATOR (IG) LOAD DISPLAY PAGE

Image Generator Load page is displayed when “Start Training” is selected from the Mode Select page. The Instructor/Operator can observe the loading of the image generator database from this page. During database loading, if the I/O select Optical Improvement Package (OIP) for training, the prompt “Loading OIP Memory” prompt (1) appears at five minute intervals until the OIP memory is loaded. Next, the special effect loading begins, increments of 5% displays until 100% load is completed. If loading process stops before 100 % load is obtained, a possible error exists (see page 6–5) for Image Generator diagnostic procedures.

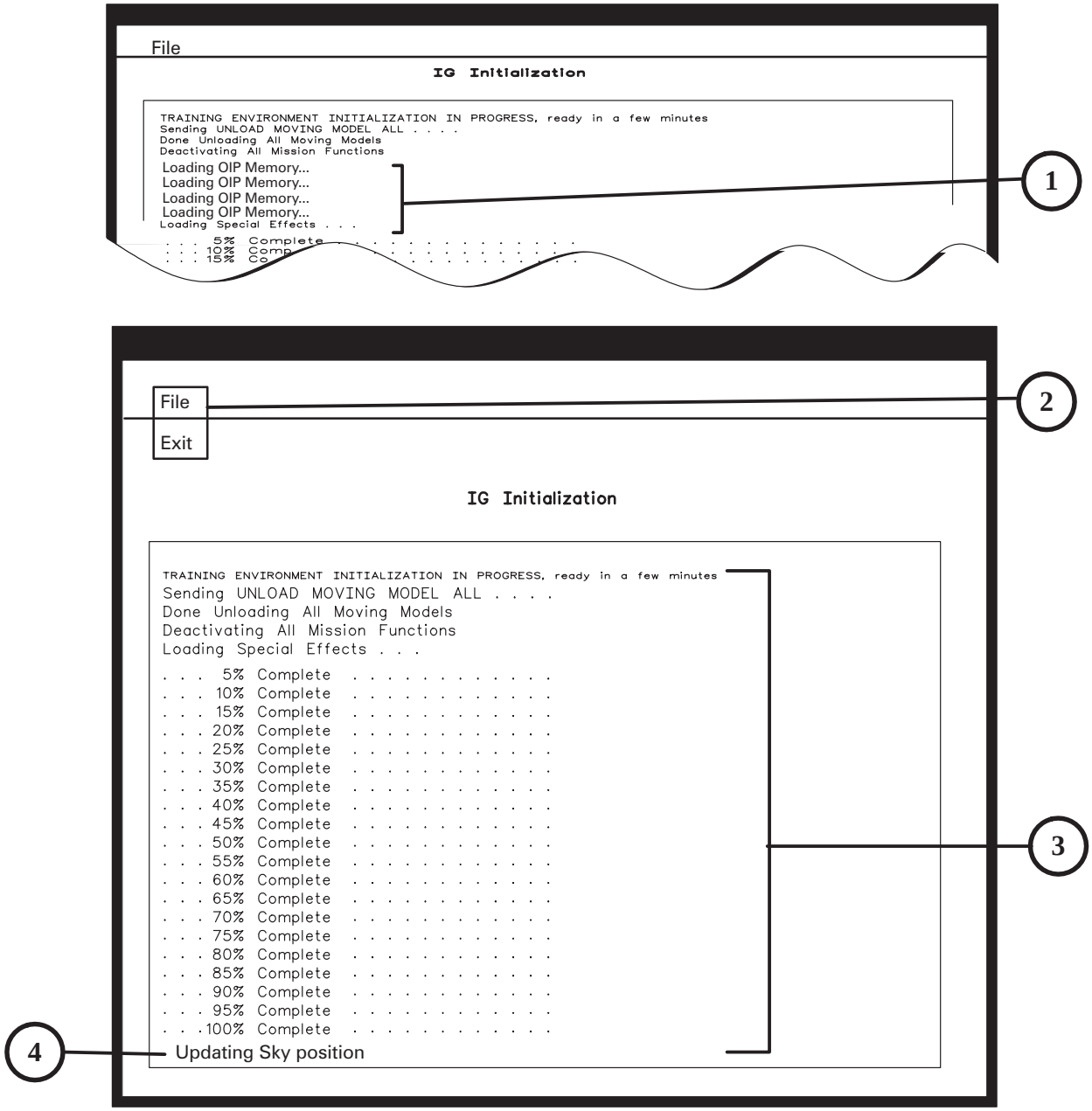


Figure 2–24. Image Generator (IG) Load Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Loading OIP Memory	Prompt appears on Image Generator (IG) Load display page every five minutes until OIP memory is completely loaded. This loading will only occur when "YES" is selected from popup prompt "Do glare effects need to be loaded? (This takes 15–30 minutes)" shown on page 2–34.
2	File prompt	When selected, "Exit" prompt appears. Select "Exit" option to exit IG Initialization page and recall Mode Select display.
3	Image Generator (IG) loading data	Data continues to load at 5% load increments until the database load is 100% complete. If database load is complete, Initialization Display page (see page 2–40) appears on terminal screen. If database fails to load, I/O should select "Exit" prompt shown at top left of Initialization page and select "Start Training" again from Mode Select display. If load fails a second time (see Diagnostic Test Procedures page NO TAG).
4	Updating Sky position prompt	This prompt appears on the terminal screen when the database load process has completely loaded. During database load if an error is detected, an error message may display at this location on the screen indicating the error(s). In situation where an error is detected, attempt to restart the load process from the Mode Select display (see page 2–30). If an error is detected a second time, refer to Diagnostic Test Procedures (see page NO TAG).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.25 CREW INITIALIZATION DISPLAY PAGE

Crew Initialization display page is displayed when“Start Training” options have been selected from the Mode Select page. The Initialization page provides information such as; names of crew to be trained, instructor name, selection of exercise to be fired, database selection, and provides the I/O with an overall view of the exercise selected. To begin initialization process, you must first enter a vehicle name in “Vehicle Name” field.

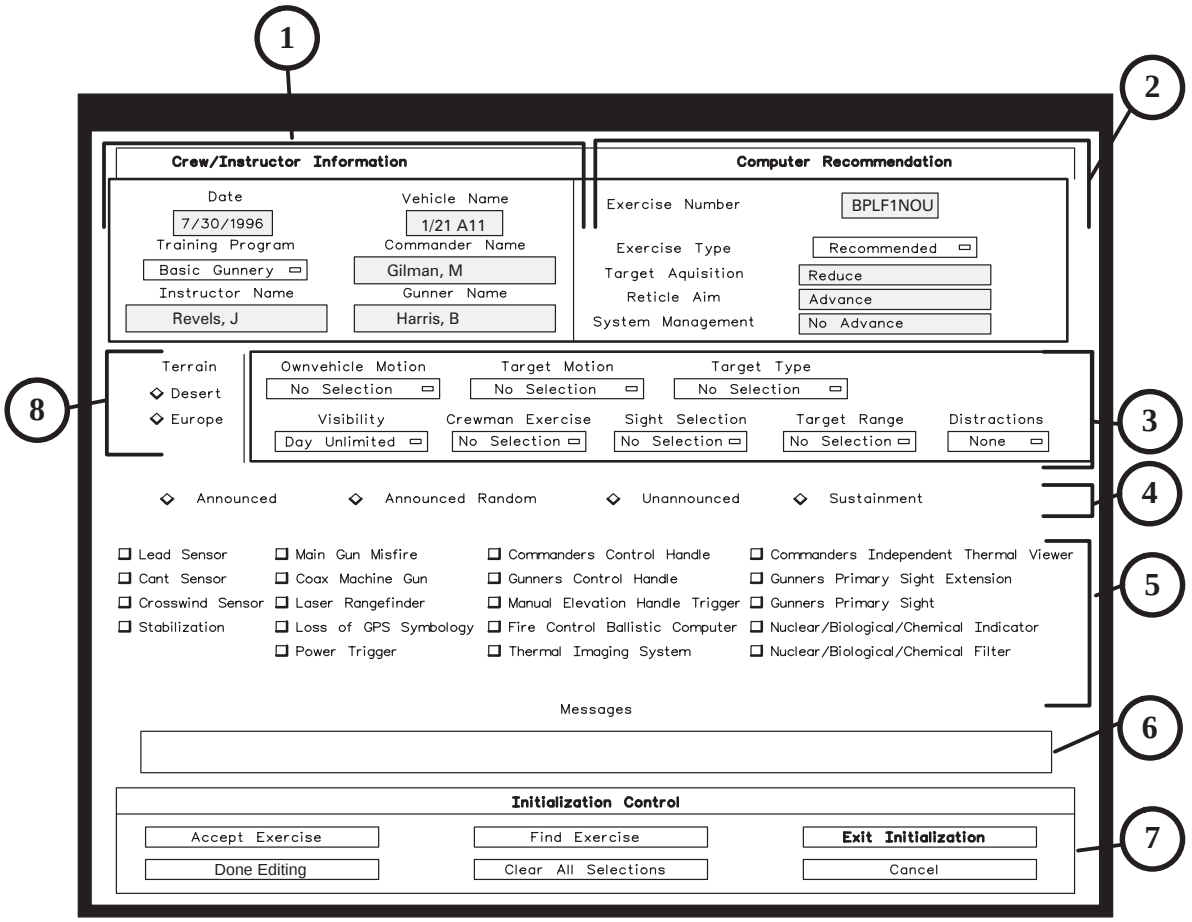


Figure 2–25. Crew Initialization Display Page

Key	Control or Indicator	Function
		NOTE To initialize crew training under computer recommended, the crew must be entered with a vehicle name in the “Vehicle Name” field (ie; 1/21 A11). When an exercises is selected with a vehicle name, a permanent record is stored on the training disk. The AGTS can be used for demonstration purposes without creating a permanent record. To do this, enter a vehicle name of “xxx” in the “Vehicle Name” field. This entry, which is sometimes called “rapid log–on”, creates a temporary record that is deleted upon termination of training.
1	Crew/Instructor Information	This portion of the Initialization display page permits the I/O to view or enter: Date (automatically entered by the computer), Vehicle Name, Training Program (automatically selected and entered by the computer depending on crew performance), the manager can permit the I/O to switch between Basic and Advanced Gunnery training,

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Crew/Instructor Information (Continued)	Commander Name, Gunner Name and Instructor Name. After crew information is entered, the crew will receive popup prompt "Do you wish to Boresight?", if I/O selects "Yes" the boresight display (see page 2–64) will appear. If the I/O selects "No", popup prompt disappear from terminal screen, permitting the I/O to continue.
2	Computer Recommendation	This portion of the Initialization page permits the operator to enter: Exercise Number (exercise number is automatically entered during computer recommended training), Exercise Type (see page 2–42 (2)) and permits the I/O to view the exercise grades (Target Acquisition (TA), Reticle Aim (RA), and System Management (SM)). During computer recommended training, TA, RA and SM field background colors are: Red = Reduce grade, Yellow = No Advance, Green = Normal Advance, and Blue = Rapid Advance depending on crew's grade.
3	Exercise Content selection options	This portion of the display page provides options for the I/O to select: Ownvehicle Motion, Target Motion, Target Type, Visibility, Crewman Exercise, Sight Selection, Target Range and Distractions. Only Advanced Gunnery Skill level exercises can be selected by content. Content options are not available during Basic Gunnery exercise selection.
4	Exercise instructions	This portion of the Initialization page permits the operator to select if malfunctions should be Announced, Announced Random, Unannounced, or Sustainment when exercise instructions are read to the crew.
5	Exercise malfunction selection indicators	This portion of the Initialization display page permits operator to select the following malfunction: Lead Sensor, Cant Sensor, Crosswind Sensor, Stabilization, Main Gun Misfire, Coax Machine Gun, Laser RangeFinder, Loss of GPS Symbology, Power Trigger, Commander's Control Handle, Gunner's Control Handle, Manual Elevation Handle Trigger, Fire Control Ballistic Computer, Thermal Imaging System, Commander Independent Thermal Viewer, Gunner's Primary Sight Extension, Gunner Primary Sight, Nuclear/Biological/Chemical (NBC) Indicator, and/or NBC Filter.
6	Messages field	Displays exercise status prompts.
7	Initialization Control	This portion of the Initialization display page permits the I/O to: Accept Exercise (listed in "Messages" field), Find Exercise (any exercise that has been selected under Content), Exit Initialization, Cancel (any option selected), Clear All Selections, Done Editing (only if a vehicle name has been entered).
8	Terrain options	This portion of the display page permits the I/O to select the database desired (European or Desert) for the training exercise. During crew mode exercise selection, the I/O will be prompted to choose Desert or European database when both databases are available.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.25.1 CREW INITIALIZATION DISPLAY PAGE (CONTINUED)

This crew initialization display page describes initialization pull–down displays.

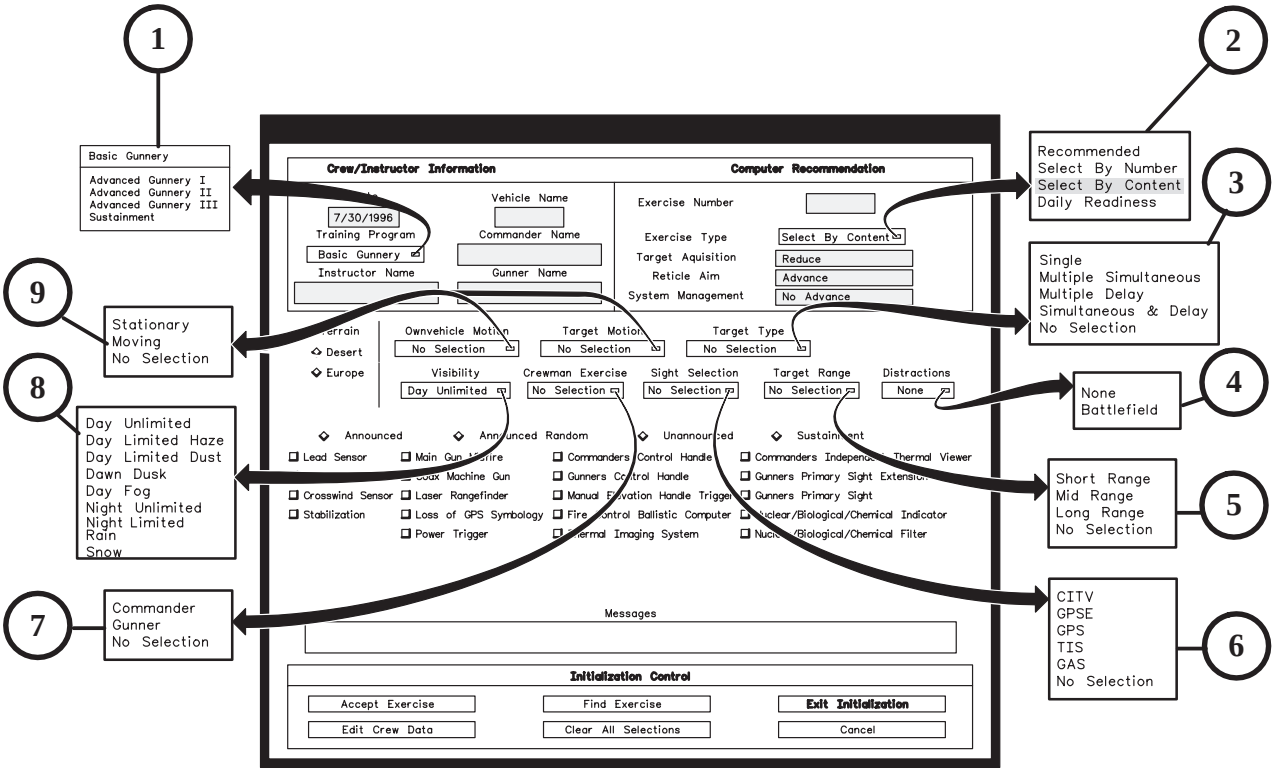


Figure 2–25. Crew Initialization Display (Continued)

Key	Control or Indicator	Function
1	Training Program available	Training exercises available in each training program are: Basic Gunnery (7 Pre–Live Fire exercises and 4 Gate–to–Live Fire exercises), Advanced Gunnery I (36 exercises), Advanced Gunnery II (36 exercises), Advanced Gunnery III (36 exercises), Sustainment (randomly selected from Advanced Gunnery I, II, III exercises). Only the Training Manager can relocate a crew in the training matrix.
2	Exercise selection options	a. Recommendation – This option is selected for crew progression automatically by the computer, during computer recommendation training, three categories are graded by the computer to determine the crew's grade; Target Acquisition, Reticle Aim, and System Management. Progression through the matrix is dependant on crew grades.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	Exercise selection options (Continued)	b. Select by Number – Option is selected when the I/O desires to select a specific exercise, a list of all exercises in the AGTS exercise library are shown in Chapter 5 TRAINING EXERCISE OVERVIEW. c. Select by Content – Option allows the I/O to choose an exercise with specific characteristics. Content exercise options can be selected for any of the ownvehicle target type, and malfunction options (call outs: 3 through 9) from this menu. d. Daily Readiness – Select daily to determine the readiness of the training system (see page 2–44).
3	Target Type options	Target type option available to I/O during exercise Select by Content: (1) Single targets (2) Multiple Simultaneous targets (3) Multiple Delay targets (4) Simultaneous and Delay targets (5) No Selection.
4	Distractions options	Distractions available to I/O when selecting an exercise using Select by Content: (1) None (2) Battlefield
5	Target Range options	Target Range options available to I/O during exercise Select by Content: (1) Short Range (2) Mid Range (3) Long Range (4) No Selection.
6	Sight Selection options	Sight Selection options available to I/O during exercise Select by Content: (1) CITV (2) GPSE (3) GPS (4) TIS (5) GAS (6) No Selection.
7	Crewman exercise options	Crewman (firing) exercise options available to I/O during exercise Select by Content: (1) Commander (2) Gunner (3) No Selection.
8	Visibility options	Visibility options available to the I/O during exercise Select by Content: (1) Day Unlimited (2) Day Limited Haze (3) Day Limited Dust (4) Dawn Dusk (5) Day Fog (6) Night Unlimited (7) Rain (platoon mode only) (8) Clutter (Night Limited) (9) Snow (platoon mode only).
8	Ownvehicle and/or Target Motion options	Ownvehicle and/or Target Motion options available to I/O during exercise Select by Content: (1) Stationary (2) Moving (3) No Selection.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.26 IOS DAILY READINESS CHECK DISPLAY PAGES

The IOS Daily Readiness Check display page permits the user to select and run system Daily Readiness Check (DRC) procedure (see page 6–4).

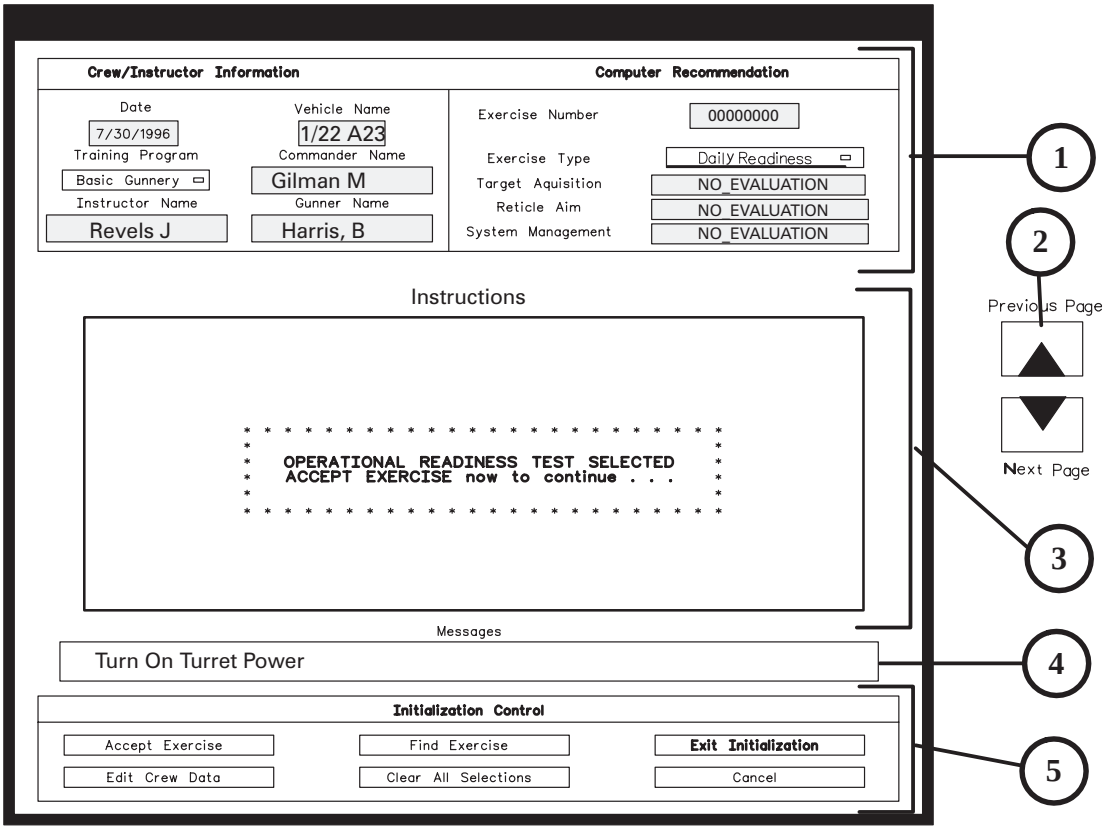


Figure 2–26. IOS Daily Readiness Check Display Page

Key	Control or Indicator	Function
1	Crew/Instructor Information and Computer Recommendation data	Permits the I/O to enter crew data and select the Daily Readiness Check exercise. When entering crew data, press the return key after each entry.
2	Up/Down arrows	Use left mouse button and click on the Up/Down arrow icon to bring up the Next or Previous screen.
3	INSTRUCTIONS field	Displays the Daily Readiness instructions
4	Messages field	Displays messages related to the Daily Readiness Check.
5	Initialization Control	This portion of the Initialization display page permit the I/O to: Accept Exercise (listed in “Messages field”), Find Exercise (any exercise that has been selected during Select by Content), Exit Initialization, Cancel (any option selected above), Clear All Selections, Edit Crew Data (if a vehicle name has been entered).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.26.1 IOS DAILY READINESS CHECK (DRC) DISPLAY PAGE (CONTINUED)

The Daily Readiness Check permits the operator to verify that switches, controls and indicators are correctly set prior to attempting to conduct training. Additionally, the check allow the operator to determine if database visual scenes appears to be correct.

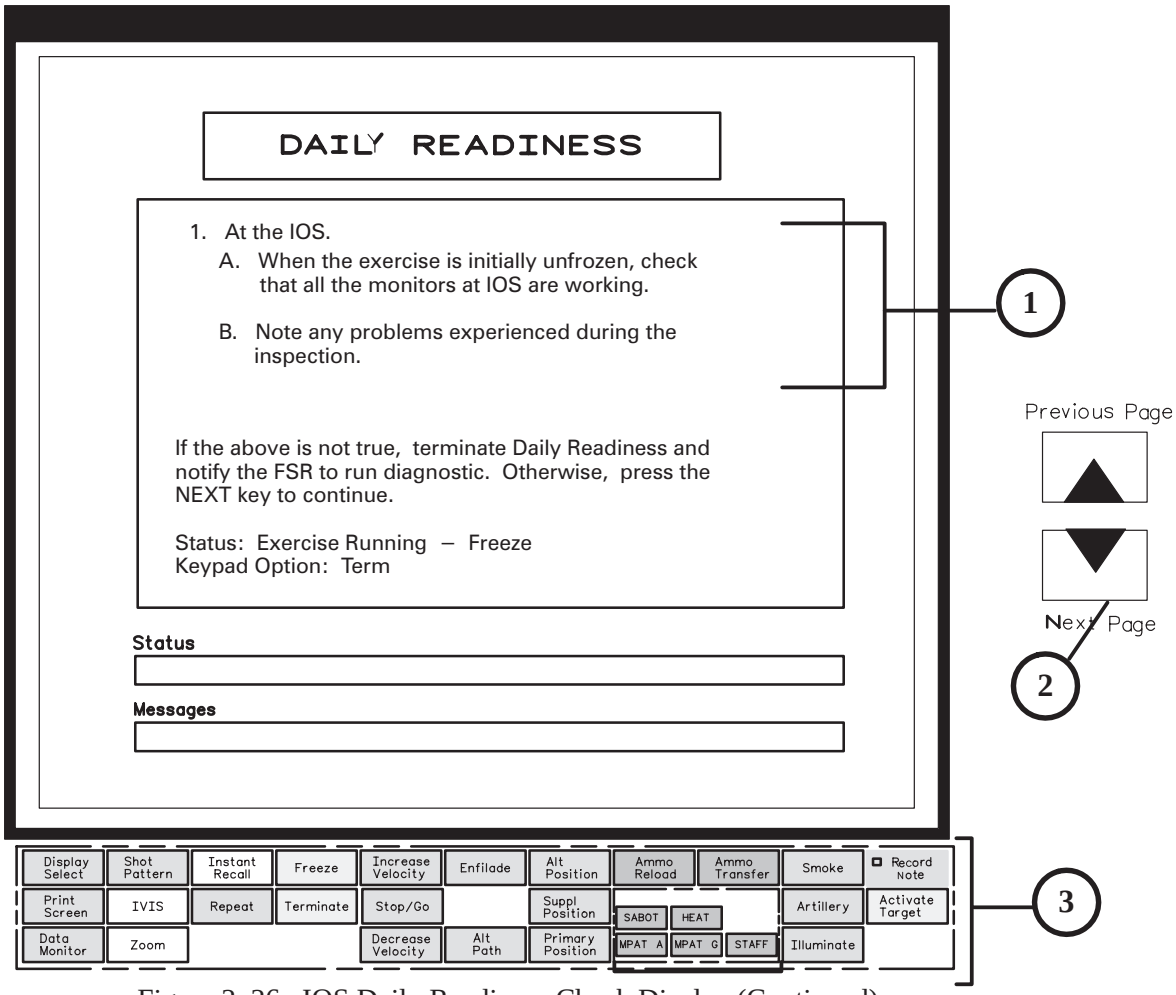


Figure 2–26. IOS Daily Readiness Check Display (Continued)

Key	Control or Indicator	Function
1	Daily Readiness instruction	Prompts the Commander and Gunner to enter crew station and verify that all controls and indicators are operating properly. Once all instructions on the current page have been verified, the I/O must select the Next Page arrow to present the next page of DRC instruction.
2	Previous/Next Page arrow	When selected, permits the I/O to will display previous or next page of the Daily Readiness Check.
3	Graphic Users Interface Electronic keypad	(See page 2–46)

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.27 GRAPHIC USERS INTERFACE (GUI) ELECTRONIC KEYBOARD DISPLAY PAGE

The Graphic Users Interface Electronic Keyboard display page automatically appears below the following display pages: Situation Monitor, Performance Analysis, Daily Readiness Test, and Boresighting/Screening. The electronic keyboard permits the I/O to control training using the mouse. The same options on the GUI keyboard are replicated on the IOS Keypad (see page 2–24). Icon highlights when option(s) are available.

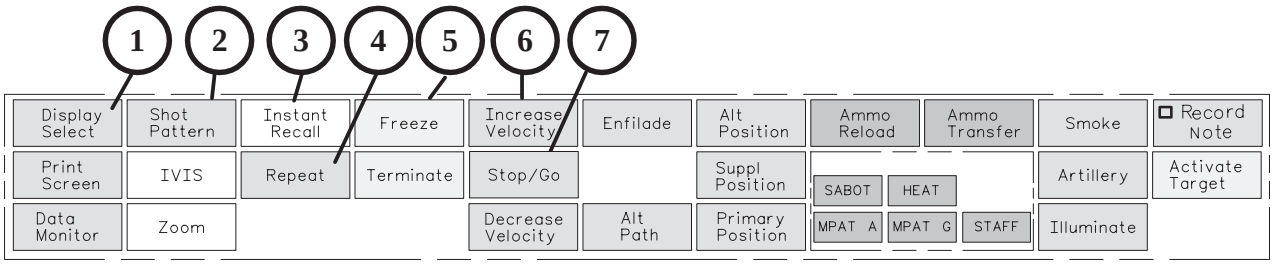


Figure 2–27. Graphic Users Interface Electronic Keyboard Display Page

Key	Control or Indicator	Function
1	Display Select icon	When selected, toggles the IOS display between the Situation Monitor (see page 2–50) and the Performance Analysis (see page 2–58) display page.
2	Shot Pattern icon	When selected, results of the exercise Shot Pattern (see page 2–86) are sent to the Laser Printer (see page 2–12).
3	Instant Recall icon	When selected with the left button of the mouse, while in FREEZE mode, permits I/O to view an instant replay of the last 120 seconds of training.
4	Repeat icon	When selected, resets system for a repeat of the same exercise. Exercise will be restarted commencing with the Instructions Display page.
5	Freeze/Unfreeze icon	When selected, on screen training will halt and remain in position at the moment of freeze. When icon is selected a second time, unfreezes the scene to continue the exercise.
6	Increase Velocity icon	When selected, while tank is moving, tank speed increases 5 mph each time the icon is selected. Maximum velocity is 50 mph. Active during platoon mode only.
7	Stop/Go icon	When selected, while owntank is moving, owntank comes to a normal stop. Selected again, owntank will continue its programmed movement. When own tank is stopped in the defense during platoon mode and key is pressed, a pop–up prompt “Do you really want to activate Stop/Go” appears (see Figure 2–23). Operator must confirm this prompt before vehicle will move out.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.27.1 GRAPHIC USERS INTERFACE (GUI) ELECTRONIC KEYBOARD DISPLAY PAGE (CONTINUED)

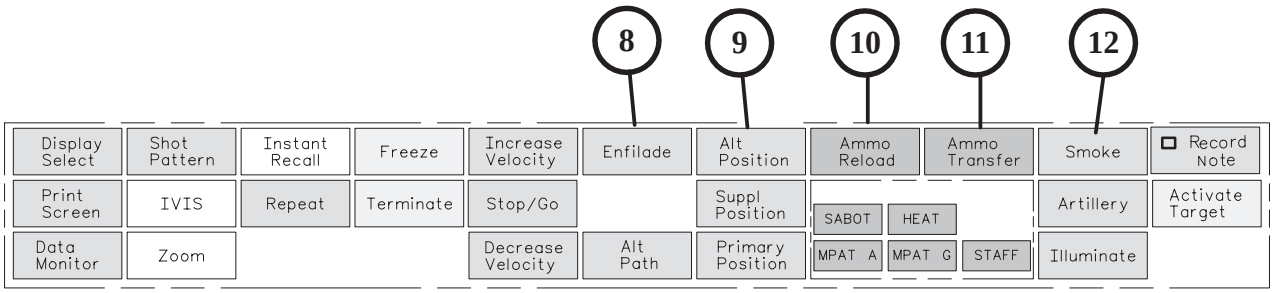


Figure 2–27. Graphic Users Interface Electronic Keyboard Display Page (Continued)

Key	Control or Indicator	Function
8	Enfilade/Defilade icon	When icon is selected using left mouse button, when owntank is stationary in the defilade position, owntank will move to the enfilade position. Pressing this key when owntank is stationary, in the enfilade position, owntank will move to defilade position.
9	Alt Position icon	If ownvehicle is in defilade position and icon is selected, owntank will follow a preprogrammed path laterally at least 25 meters, then stop in defilade at the alternate firing position.
10	Ammo Reload icon	When selected, followed by an ammo select key (18), within five seconds after main gun fires, will cause the previously selected ammo type to be unloaded and the current ammo selection to be loaded.
11	Ammo Transfer icon	When selected, an AMMO TRANSFER menu (see page 2–66) will appear on terminal screen.
12	Smoke icon	When selected during training, friendly smoke screens will be created between ownvehicle and enemy targets. Active during platoon mode only.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.27.2 GRAPHIC USERS INTERFACE (GUI) ELECTRONIC KEYBOARD DISPLAY PAGE (CONTINUED)

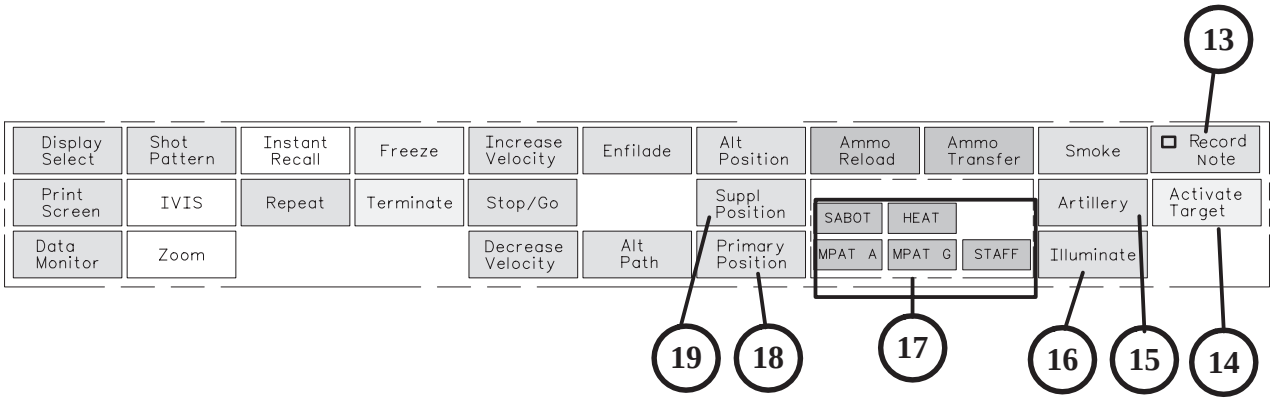


Figure 2–27. Graphic Users Interface Electronic Keyboard Display Page (Continued)

Key	Control or Indicator	Function
13	Record Note icon	When icon is selected, marks a location during training that maybe used for playback during platoon debriefing. Platoon mode only. When the box to the left of the word “Record” is selected during training, the record mode is lock “ON”, the I/O can record until box is selected again. Box turn green when selected.
14	Activate Target icon	When selected during training, activate available targets. Platoon mode only.
15	Artillery icon	When selected during training, simulated friendly artillery rounds will fall to the front of ownvehicle. Platoon mode only.
16	Illuminate icon	When selected during training, illumination of the target area will occur. Platoon mode only.
17	Sabot, Heat, MPAT A, MPAT G, and STAFF icons	When selected during training, within five seconds of main gun firing or after reload is selected, the selected ammunition will be loaded into the maingun.
18	Primary Position icon	When selected during training, ownvehicle will move from the defilade position at the alternate position to the primary position.
19	Suppl Position icon	When selected while owntank is in the defilade position will cause owntank to follow a preprogrammed path from its current position to supplemental position laterally at least 75 meters, then stop at the new defilade position. Active during platoon only.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.27.3 GRAPHIC USERS INTERFACE (GUI) ELECTRONIC KEYBOARD DISPLAY PAGE (CONTINUED)

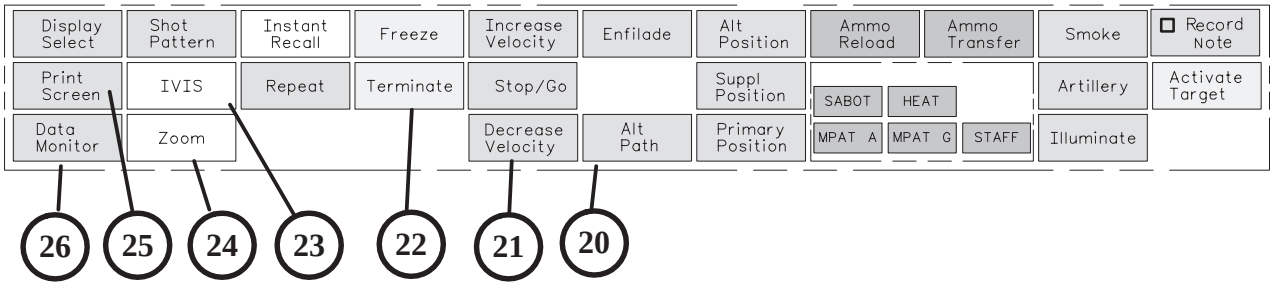


Figure 2–27. Graphic Users Interface Electronic Keyboard Display Page (Continued)

Key	Control or Indicator	Function
20	Alt Path icon	When selected while ownvehicle is on the offense, will cause owntank to follow a preprogrammed path laterally at least 50 meters, then return to original owntank vehicle path. Available in platoon mode only.
21	Decrease Velocity icon	When selected while tank is moving, tank speed decreases 5 mph each time icon is selected. Minimum velocity is 5 mph. Active during platoon only.
22	Terminate icon	When selected during an exercise Freeze condition, exercise exit conformation prompt will be appear.
23	IVIS icon	When selected during an exercise Freeze condition, the IVIS Status display page (see page 2–112) will appear on terminal screen.
24	ZOOM icon	When selected during Instant Recall will zoom scenes in both crewman sights and the monitors at the IOS. When pressed again, will unzoom scenes.
25	Print Screen icon	When selected with the Situation Monitor or Performance Analysis display page displayed on the terminal screen, a printout of the display will be printed at the laser printer.
26	Data Monitor icon	When selected, Data Monitor display (see page 2–68) will appear on terminal screen. This display is primarily used during boresighting.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.28 CREW MODE SITUATION MONITOR DISPLAY PAGE

The Crew Mode Situation Monitor display page enables the I/O to observe performance of crew members in the crew station during training. If exercise runs to completion, status field changes to "Exercise Complete."

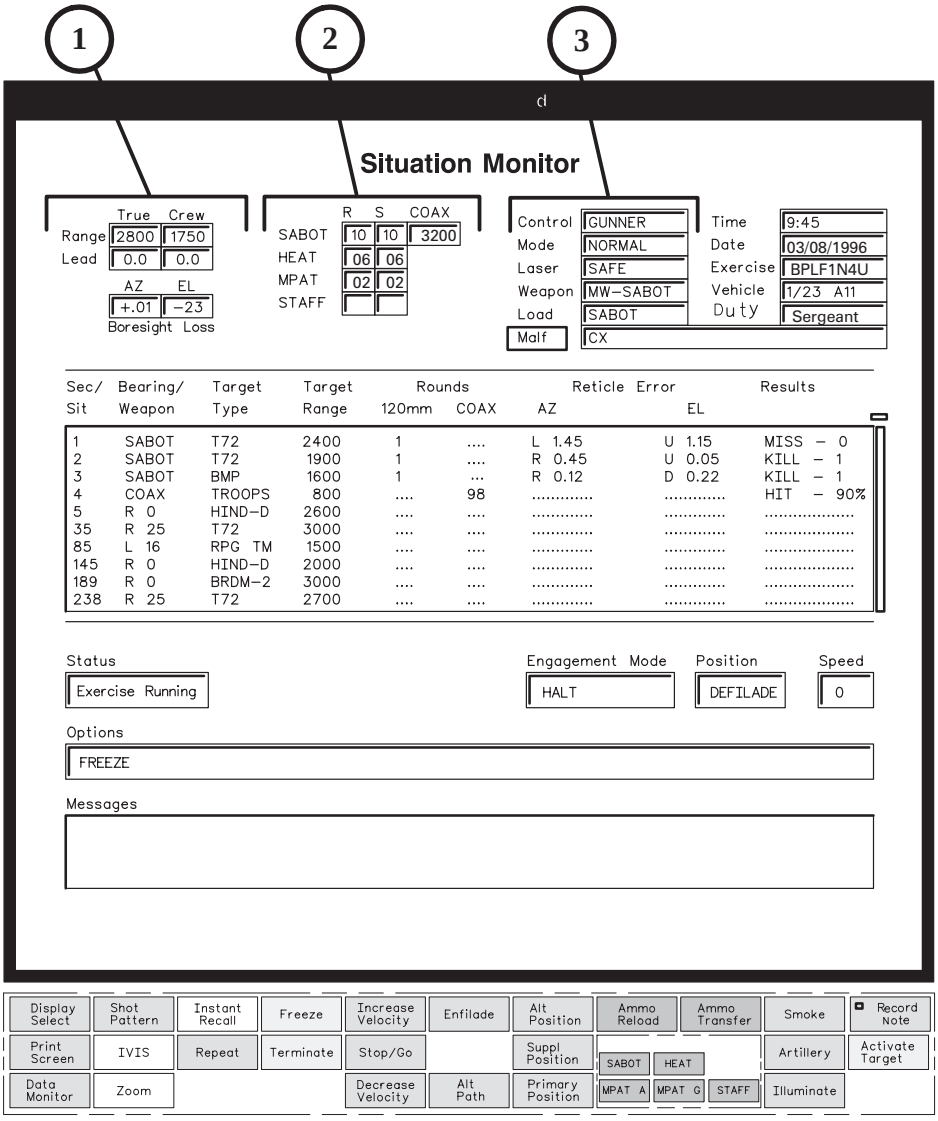


Figure 2–28. Crew Mode Situation Monitor Display Page

Key	Control or Indicator	Function
1	Range, Lead, Boresight Loss	Provides the I/O with the True Range and Lead as opposed to the Crew Range and Lead. Boresight Loss status is provided for the I/O (Crew should update MRS once during the exercise prior to firing more than 6 to 10 rounds).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	SABOT, HEAT, MPAT, STAFF	R indicates the number of rounds available in the tank's ready rack. S indicates the number of rounds available in the tank's semi–ready rack. COAX indicates the number of coax rounds available.
3	Control, Mode, Laser, Weapon, Load, Malf	List of crew station switch settings, status of crew station components, and a list of crew station malfunctions. a. Control = Indicates whether turret is controlled by GUNNER, COMMANDER, or neither. (Dependent upon activation of palm switches.) b. Mode = Fire Control Mode is NORMAL, MANUAL or EMERGENCY. (Dependent upon position of fire control mode switch in crew station.) c. Laser = FIRST RTN, LAST RTN, or SAFE. (Dependent upon position of laser range switch.) d. Weapon = Main weapon, Coax machine gun and type of ammunition selected or Gun Select position (SAFE, COAX, MW–SABOT, MPAT, or MW–HEAT). e. Load = Ammo type selected by crew and loaded by I/O entry on keypad (EMPTY, SABOT, MPAT or HEAT). f. Malf = Crew station component malfunctions. (LR=Laser Range Finder failure, ST=Stabilization failure, GS=Gunner's primary sight/extension failure, BC=Ballistic computer failure, GP=Gunner's control handle failure, CX=Coaxial machinegun failure, LS=Lead sensor failure, CS=Cant sensor failure, WS=Crosswind sensor failure, NB=Nuclear biological conditions, CV=CITV failure, SB=Loss of GPS symbology, MG=Main gun misfire, BS=Main weapon firing boresight loss, MP=Master Power, HY=Hydraulic failure, CH=Commander's control handle failure, MT=Manual elevation handle trigger malfunction, TS=Thermal imaging sight (TIS) failure, PT=Power triggers failure, TP= Force OV Kill). The I/O can select the "Malf" icon to view malfunction abbreviation descriptions.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.28.1 CREW MODE SITUATION MONITOR DISPLAY PAGE (CONTINUED)

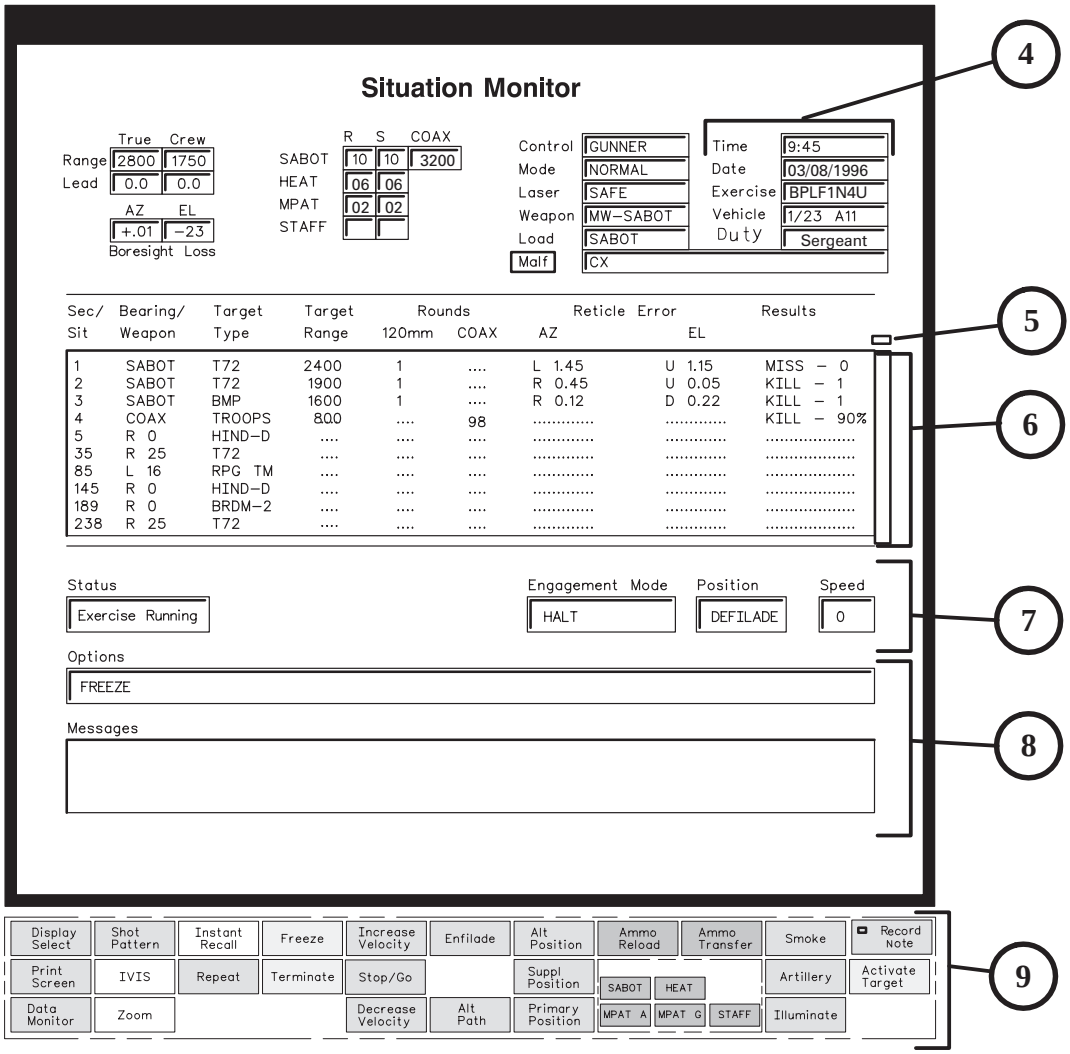


Figure 2–28. Crew Mode Situation Monitor Display Page (Continued)

Key	Control or Indicator	Function
4	Time Date Exercise: Vehicle: Duty	Provides training Time, Date, Exercise number, Vehicle number, and the duty assigned within the platoon.
5	Scroll lock/unlock button	When selected, permits the I/O to view all data in dialog box.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	Exercise data fields	The following fields contain exercise information:
	Sec–Sit (seconds and situation number)	Displays time remaining in the exercise before the next target activates and the number of situations that have been fired.
	Bearing/Weapon	During the exercise the bearing displayed in degrees to the right (R) or left (L) of the location of the Main Gun. After each target is fired upon, the bearing is replaced with the type of weapon or main gun ammo selected for use by the crew.
	Target Type	Target Types include M1A1; BTR70; M1A2; MERKAVA; M2A3A3; CHIEFTAIN; CHALLENGER; AGS; M113; T72; BMP; TRUCK; ZSU–23–4; BTR–60; BRDM–2; M1–8C; TGT BOARD; TROOPS; M1; M2/3; T80; M60A3; AH64; HIND–D; RPG TM; AT–5; ATGM; AMX–10; AMX–30; BORESIGHT PANEL; LEO1; LEO2; ST4 PANEL; and MARDER. When a target becomes active, the target type are made brighter and returns to normal when target is deactivated.
	Target Range	Provides I/O with the range to targets.
	Rounds – 120mm/COAX	Indicates the number of maingun and/or coax rounds fired during the situation
	Reticle Error	AZ = L (left), R(right) and amount of error in mils. EL = U (up), D(down) and amount of error in mils.
	Results	Provides the general results of the situation as HIT; MISS; NE; MOB or KILL for all exercises other except acquisition and manipulation exercises. A number in this column following a dash indicates the number of hits, or, for an area target, the percentage of shots fired that hit the target. The letter “F” to the right of this column indicates a forced miss. The letter “C” to the right of this column indicates an object was hit in the target area other than a target.
7	Status	Provides exercise information indicating if exercise is running or frozen.
	Engagement Mode	Indicates if ownvehicle is: Moving or Halt.
	Position	Indicates if ownvehicle is: Defilade or Enfilade.
	Speed	Indicates vehicle speed in MPH. Negative reading is displayed when ownvehicle is moving in reverse.
8	Options	Display options available to the I/O.
	Message	Displays exercise status.
9	Graphic Users Interface Electronic Keyboard.	See page 2–46.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.29 CREW MODE QUALIFICATION ANALYSIS DISPLAY PAGE

The Crew Mode Qualification Analysis display page appears when a Basic Pre–Live Fire or Basic Gate–to–Live Fire exercise is “Frozen” and the PERF ANALYSIS key is pressed on terminal keypad or Display Select icon is selected on the electronic keypad. This display provides a summary of the crew’s performance for each situation, exercise Totals and Averages.

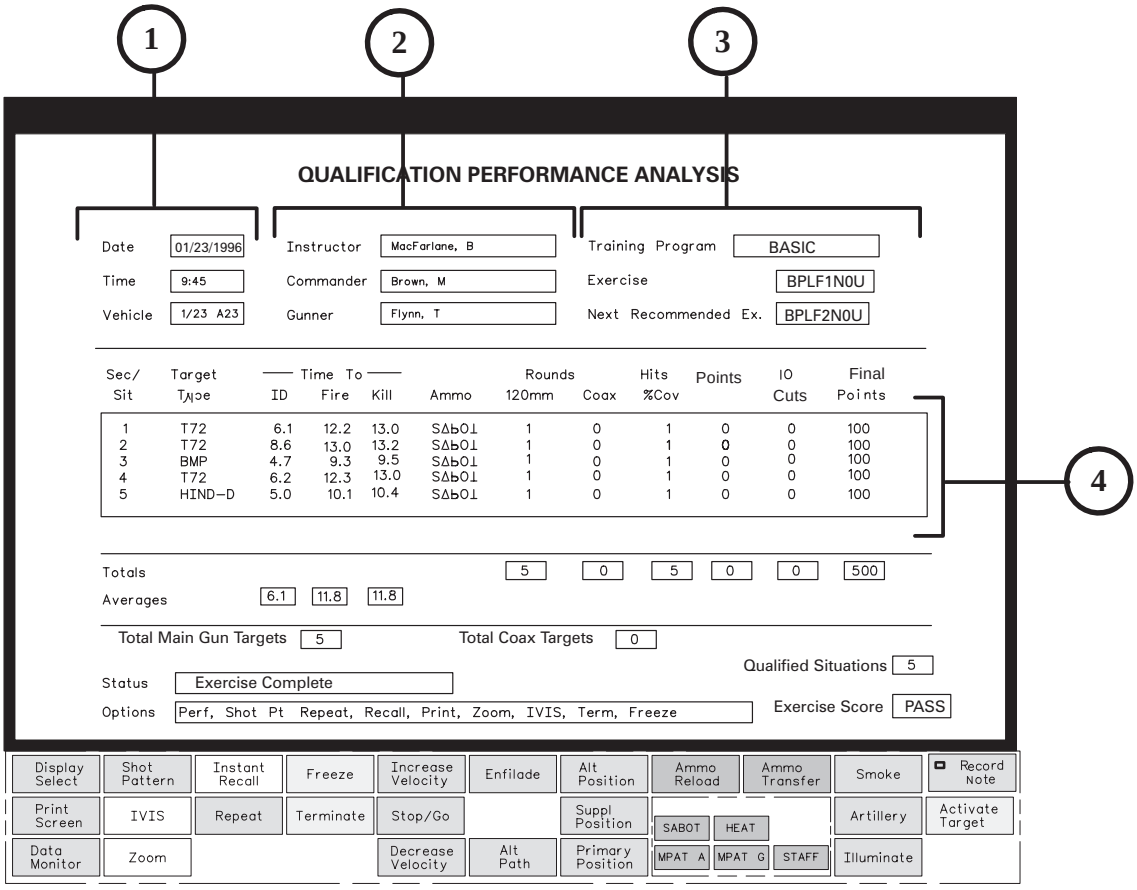


Figure 2–29. Crew Mode Qualification Analysis Display Page

Key	Control or Indicator	Function	
1	Date, Time, Vehicle	Date	Current date.
		Time	The running time of the exercise when the FREEZE/UNFREEZE key is pressed by the instructor or the training exercise has been completed and comes to an automatic freeze.
		Vehicle	Unit bumper number of tank firing the exercise.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	Instructor, Commander, Gunner	Instructor's name, Commander's name, Gunner's name.
3	Training Program	Trng Program = Basic: a. Pre–Live Fire. b. Gate to Live Fire.
	Exercise	Current exercise associated with performance analysis.
	Next Recommended Ex.	Next computer selected exercise.
4	Sec/Sit	Sec = Second to activation does not apply on the performance analysis. Sit = Identifies sequence number of each situation.
	Target Type	Identifies target type(s) presented in each situation.
	Time To: ID, Fire, Kill	Identifies the times when targets were first identified, fired, or killed: ID — Times stop when own vehicle reaches Enfilade position on defense exercise and is 1/2 the fire Time on target in offense exercise. Fire — Defense and offense time ends when the first round is fired on the initial target in the situation. Kill — Time last active target was killed in a situation.
	Ammo	Ammo type used and scored on target. COAX = 7.62 ammo HEAT = 120mm High Explosive Anti–Tank ammo. MPAT = 120mm Multi–Purpose Anti–Tank Air or Multi–Purpose Anti–Tank Ground ammo. APFSDS = 120mm Armor Piercing Fin Stabilizing Discarding SABOT ammo.
	Rounds 120mm/Coax	Number of rounds fired at target. Differentiated for main gun and machine gun ammunition.
	Hits %Cov	Number of hits on target or percentage of area covered (area targets).
	Points	Indicates total points allowed for the situation.
	Errors IO	Indicates deduction I/O entered for crew cuts after each situation.
	Points	Points are calculated IAW ST 17–12–1–2 Tank Gunnery manual.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.29.1 CREW QUALIFICATION ANALYSIS DISPLAY PAGE (CONTINUED)

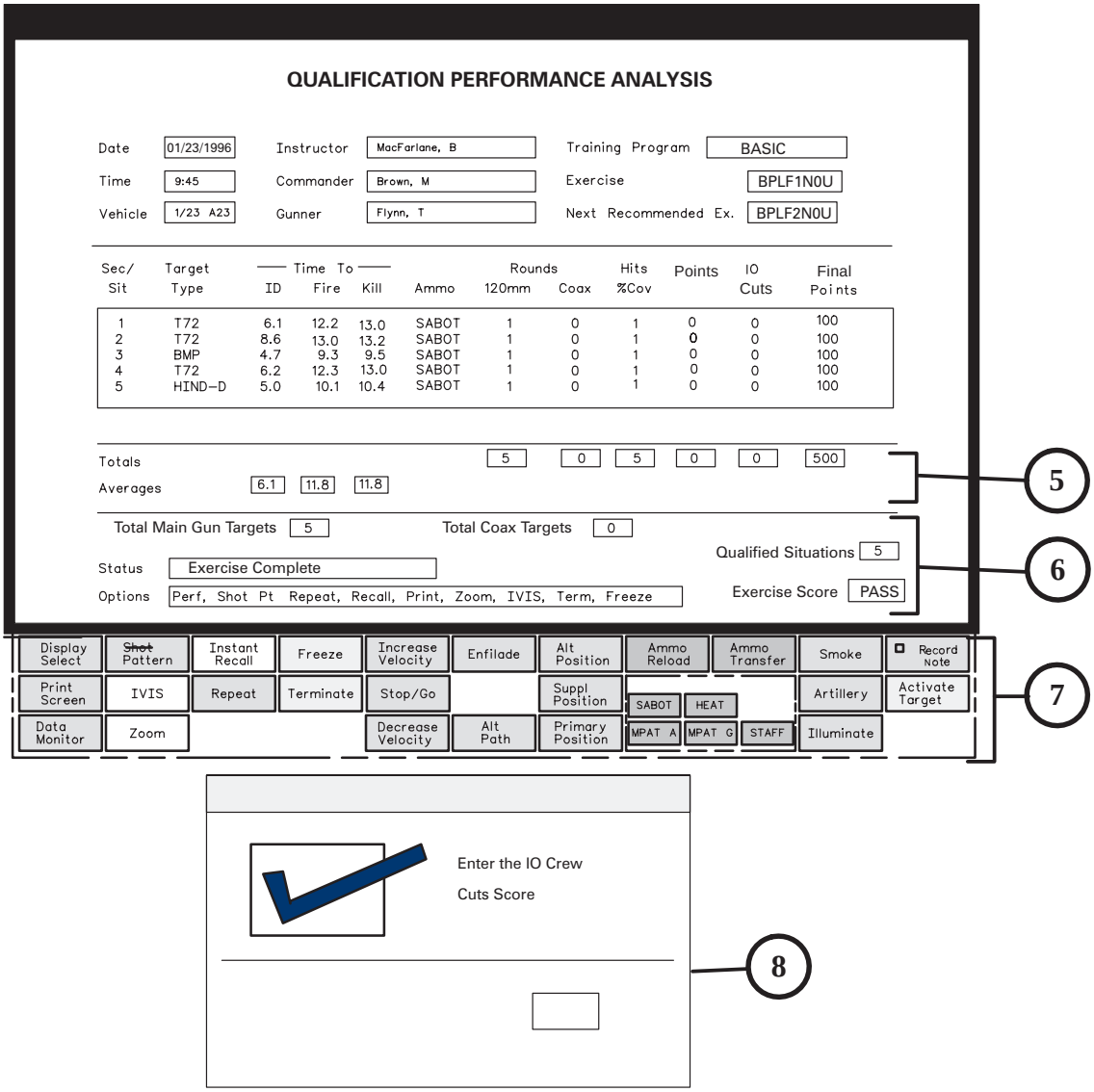


Figure 2–29. Crew Qualification Analysis Display Page (Continued)

Key	Control or Indicator	Function
5	TOTALS: Rounds – 120mm/Coax Hits/% Cov IO Errors Points	Individual totals for: a. Number of main gun and coax Rounds fired. b. Number of main gun and Coax hits. c. Total crew cuts entered by I/O for exercise. d. Total points received for exercise.
	AVERAGES: ID Fire Kill	Exercise averages for: a. Target identification time. b. Time for first round fired at target. c. Time to kill last active target.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	Total Main Gun Targets	Indicates the total number of main gun targets presented during the exercise.
	Total Coax Targets	Indicates the total number of Coax targets presented during the exercise.
	Qualification Situations	Indicates the total number of situations fired during the exercise that the crew received a qualifying score.
	Status: Frozen	Displays exercise status (Running, Frozen or Completed)
	Options: Perf, Shot Pt, Repeat, Recall, Print, IVIS, Term, Zoom	Keypad options available to I/O in exercise freeze mode.
7	Graphic Users Interface Electronic Keyboard	See page 2–46.
8	Enter the I/O Crew Cuts Score	Pop–up prompt appears at the end of each situation after ownvehicle is moved to the defilade position. I/O must make an entry and press Return on terminal keypad for exercise continuation.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.30 CREW MODE PERFORMANCE ANALYSIS DISPLAY PAGE

The Crew Mode Performance Analysis display page appears when Advanced Gunnery Skills exercises are "Frozen" and the PERF ANALYSIS key is pressed on terminal keypad or Display Select icon is selected on the electronic keypad. This display provides a summary of the crew's performance for each situation, exercise Totals and Averages.

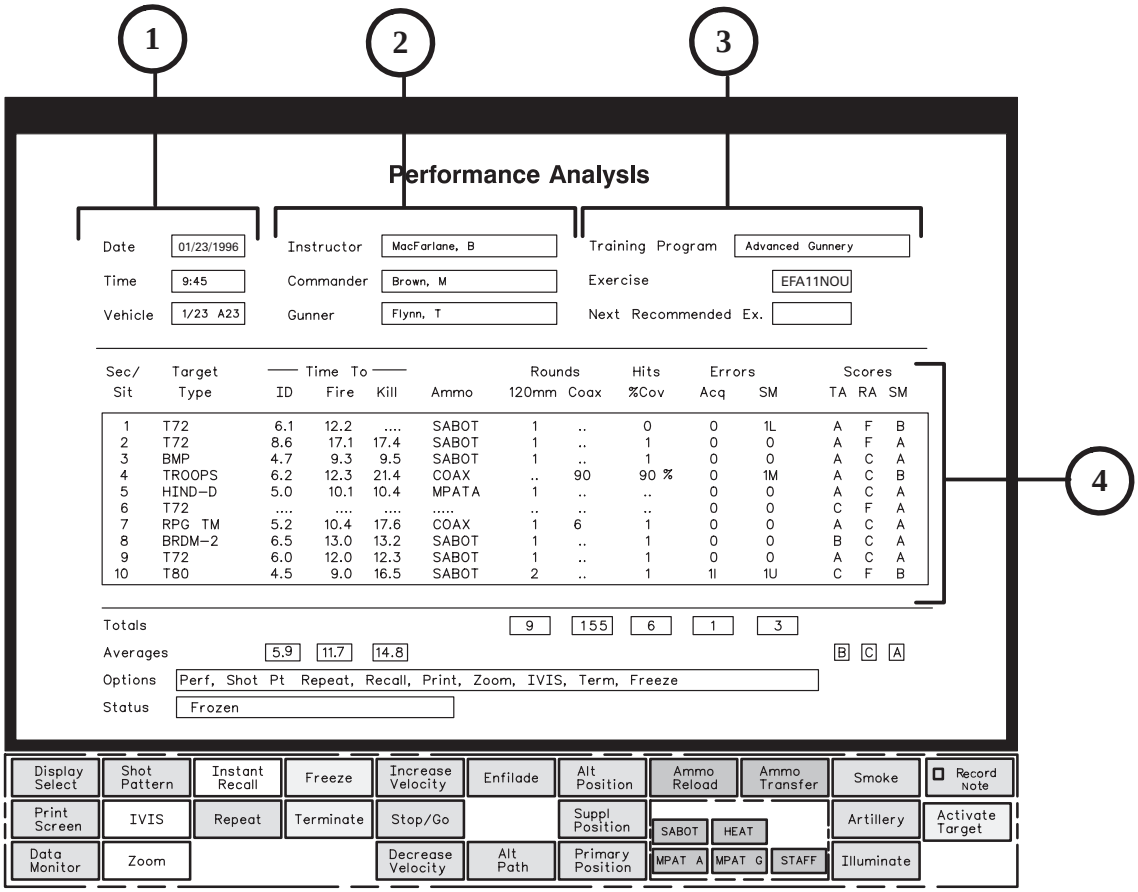


Figure 2–30. Crew Performance Analysis Display Page

Key	Control or Indicator	Function	
1	Date, Time, Vehicle	Date	Current date.
		Time	The running time of the exercise when the FREEZE/UNFREEZE key is pressed by the instructor or the training exercise has been completed and comes to an automatic freeze.
		Vehicle	Number of tank firing the exercise.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	Instructor, Commander, Gunner	Instructor's name, Commander's name, Gunner's name.
3	Training Program	Trng Program = One of three training programs: a. Basic (Pre–Live Fire & Gate to Live Fire). b. Advanced Gunnery Skills (I, II, III). c. Sustainment.
	Exercise	Current exercise associated with performance analysis.
	Next Recommended Ex.	Indicates the next computer recommended exercise the crew will fire in the Basic Program. However, this column will be left blank when the crew advances to Advance Gunnery Skill Level Training.
4	Sec/Sit	Sec = Seconds to activation does not apply on the performance analysis. Sit = Identifies sequence number of each situation
	Target Type	Identifies target type presented in each situation of the exercise.
	Time To: ID, Fire, Kill	Identifies the time when targets were first identified, fired, or killed: ID Times stop when own vehicle reaches Enfilade position on defense situation and is 1/2 the fire time on target in offense situation. Fire Defense and offense time ends when the initial target is active and the first round is fired. Kill Time last active target was killed in a situation.
	Ammo	Ammo type used and scored on target. COAX = 7.62 ammo HEAT = 120mm High Explosive Anti–Tank ammo MPAT = 120mm Multi–Purpose Anti–Tank Air or Multi–Purpose Anti–Tank Ground ammo APFSDS = 120mm Armor Piercing Fin Stabilizing Discarding SABOT ammo
	Rounds 120mm/Coax	Number of rounds fired at target. Differentiated for main gun and machine gun ammunition.
	Hits %Cov	Number of hits on target or percentage of area covered (area targets).
	Errors: Acq,	Acq = Identifies total number of acquisition errors for each situation and is presented after the end of the situation. The following error symbols are used to identify errors: C = Classification Error 2F = Fired on friendly vehicle I = Fired on a nontarget 2I = Target not engaged

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.30.1 CREW PERFORMANCE ANALYSIS DISPLAY PAGE (CONTINUED)

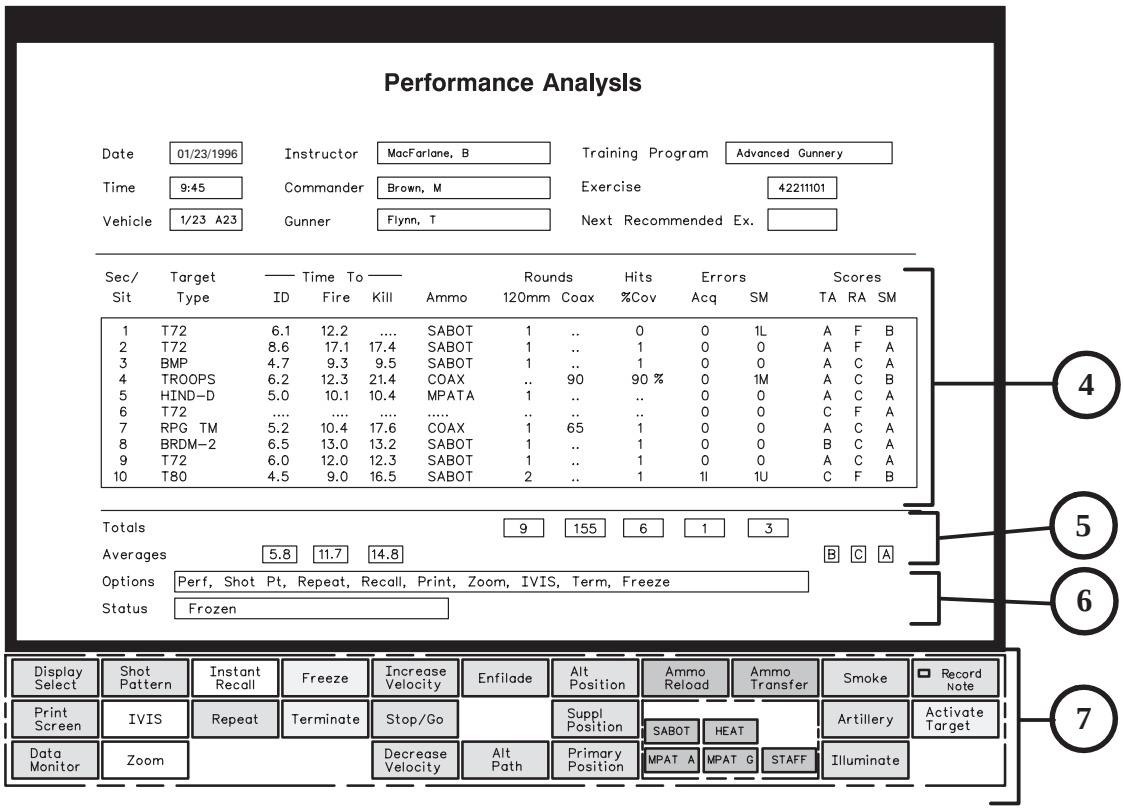


Figure 2–30. Crew Performance Analysis Display Page (Continued)

Key	Control or Indicator	Function
4	Errors: SM (Continued)	SM = Identifies the total number of system management errors for each situation and is presented when the first target in the next situation activates. The following symbols are used to identify the errors: Pre–fire switch errors: L = Failed to Lase or Relase each target. S = Failed to determine range within 300 meter (Special Purpose Exercise only). T = Failed to designate target within 3 degrees of GPS (Special Purpose Exercise only). Time of fire switch errors: A = Improper ammo fired. M = Improper sight magnification. R = Wrong GAS reticle for ammo fired or ammo selector mismatch. O = Fired with glare switch in wrong position. G = Fired MPAT with wrong mode selected (ie; Ground at air or air at ground)

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
4	Errors: SM (Continued)	Procedure errors: D = Failed to follow correct defilade procedures. U = Failed to update MRS between 6 and 10 rounds. N = Failed to meet NBC reaction time. H = Own tank sustained hit during situation.
	Scores: TA, RA, SM	Target Acquisition, Reticle Aim, and System Management letter scores resulting from each situation performed.
5	TOTALS: Rounds – 120mm/Coax Hits/% Cov Errors – Acq, SM	Individuals totals for: a. Main gun and coax Rounds fired. b. Main gun Hits . c. Acquisition and System Management errors.
	AVERAGES: ID Fire Kill	Exercise averages for: a. Target identification time. b. Time for first round fired at target. c. Time to kill last active target in a situation.
	TA, RA, SM, Column	For computer–recommended exercises scores are given as abbreviated grades. For instructor–selected exercises or repeated computer–recommended exercises, scores are given as letter grades. Abbreviated and letter grade equivalencies are as follows: a. RA = A = Rapid Advancement. b. AD = B = Normal Advancement. c. NA = C = No Advancement. d. RD = F= Reduce Advancement.
6	Options: Perf, Shot Pt, Repeat, Recall, Print, IVIS, Term	Keypad options available to I/O in exercise freeze mode.
	Status: Frozen	Displays exercise status (Running or Frozen)
7	Graphic Users Interface Electronic Keyboard	See page 2–46.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.31 BORESIGHTING EXERCISE MONITOR DISPLAY PAGE

The Boresighting Exercise Monitor display page appears when “Yes” is selected from the “Do you wish to Boresight” pop–up prompt (see page 2–36). Displayed during crew, permits I/O to observe entry made by crew in crew station during boresighting procedures. Step–by–step boresighting procedures are located in Appendix C of this handbook.

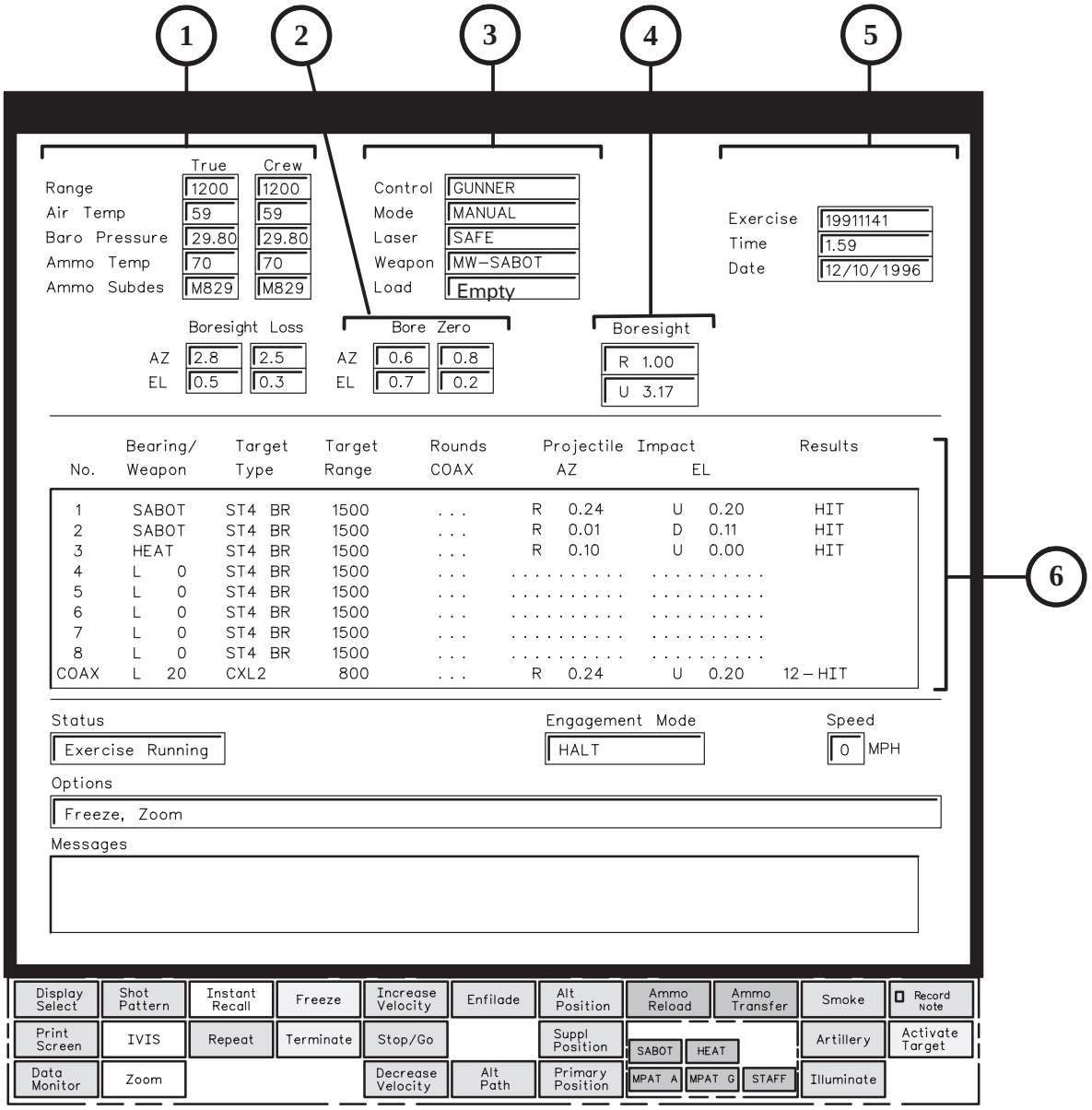


Figure 2–31. Boresighting Exercise Monitor Display Page

Key	Control or Indicator	Function
1	True/Crew	“True” column reflects actual reading programmed in software. “Crew” column reflects reading entered during boresight procedure.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Boresighting Exercise Monitor Page (Continued)	
	Range	"True" column reflects actual range programmed in software. "Crew" column reflects reading entered when target was lased.
	Air Temp, Baro Pressure, Ammo Temp, Ammo Subdes	"True" column reflects Air Temperature, Baro Pressure, Ammo Temperature, and Ammo Subdesignation programmed in software. "Crew" column reflects reading entered during boresight procedure
2	Zero	Indicates ammunition subdesignation entered by crew during boresighting procedures.
3	Control, Mode, Laser, Weapon, Load, Malf	Summary of crew station switch settings, status of crew station components, and listing of crew station malfunctions. a. Control = Indicates whether turret is controlled by GUNNER, COMMANDER, or neither. (Dependent upon activation of palm switches). b. Mode = Fire Control Mode is NORMAL, MANUAL or EMERGENCY. (Dependent upon position of fire control mode switch in crew station.) c. Laser = FIRST RTN, LAST RTN, or SAFE. (Dependent upon position of laser range switch). d. Weapon = Main weapon, Coax machine gun and the type of ammunition selected or Gun Select position (SAFE, COAX, MW–SABOT, MPAT, MW–HEAT or STAFF). e. Load = Ammo type selected by crew and loaded by I/O entry on keypad (EMPTY, SABOT, MPAT or HEAT). The load should be EMPTY when the exercise is unfrozen.
4	Boresight	Displays mil relation of main gun opposed to the upper left corner of the 1200 meter boresight panel.
5	Time, Date, Exercise	Provides current exercise running time, current date, and exercise number.
6	Exercise data fields	
	No.	Displays situation for each time a main gun round(s) is fired at a boresight or screening panel.
	Bearing/Weapon	When exercise begins, bearing for the target in the first situation is shown in degrees to the right (R) or left (L). After each target is fired upon, the bearing is replaced with the weapon type or main gun ammo fired at the target.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.31.1 BORESIGHTING EXERCISE MONITOR DISPLAY PAGE (CONTINUED)

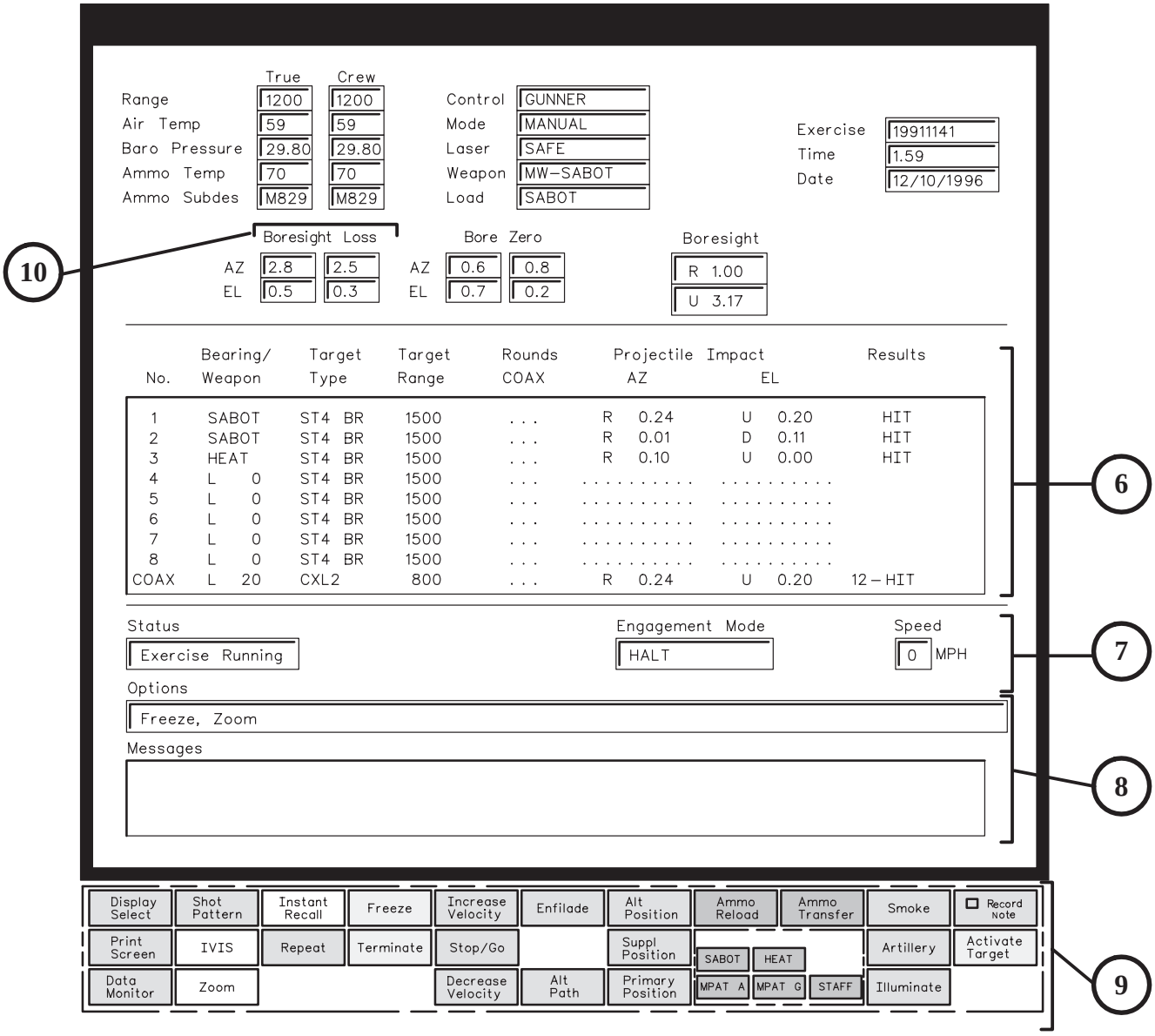


Figure 2–31. Boresighting Exercise Monitor Display Page (Continued)

Key	Control or Indicator	Function
6	Exercise data field (Continued)	
	Target Type	Target type included ST4 BR PANEL for main gun screening and CXL2 for coax machine gun zeroing.
	Target Range	Provides actual range to target.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	Exercise data field (Continued)	
	Rounds – 120mm/COAX	Indicates number of maingun and/or coax rounds fired during situation.
	Projectile Impact	AZ = L (left), R(right) and amount of error in mils. EL = U (up), D(down) and amount of error in mils.
	Results	Provides general results of the situation as HIT or MISS in this column following the number of coax and main gun rounds that hit the target.
7	Status	Provides exercise information indicating if exercise is Running and/or Frozen.
	Engagement Mode	Indicates if ownvehicle is: Moving or Halted.
	Speed	Indicates vehicle speed in MPH.
8	Options	Provides exercise information indicating options available to the I/O.
	Options	Indicates options available to I/O during running of exercise (ie; Freeze, Zoom).
	Message	Exercise information is displayed in this field (i.e.; IVIS message available) during the exercise.
9	Graphic Users Interface Electronic Keyboard.	See page 2–46.
10	Boresight columns	Boresight Loss = provides actual boresight loss for main gun during training.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.32 AMMUNITION TRANSFER DISPLAY PAGE

The Ammunition Transfer display page appears when the I/O presses the AMMO TRANSFER key (see Figure 2–14) or selects the AMMO TRANSFER icon (see Figure 2–27). The display page permits the I/O to transfer ammunition on verbal command from the crew during training. Ammunition requested from the "SEMI READY RACK" to READY RACK" will take one minute to complete. Ammunition requested from the "VEHICLE HULL" to READY RACK" will take two minutes to complete.

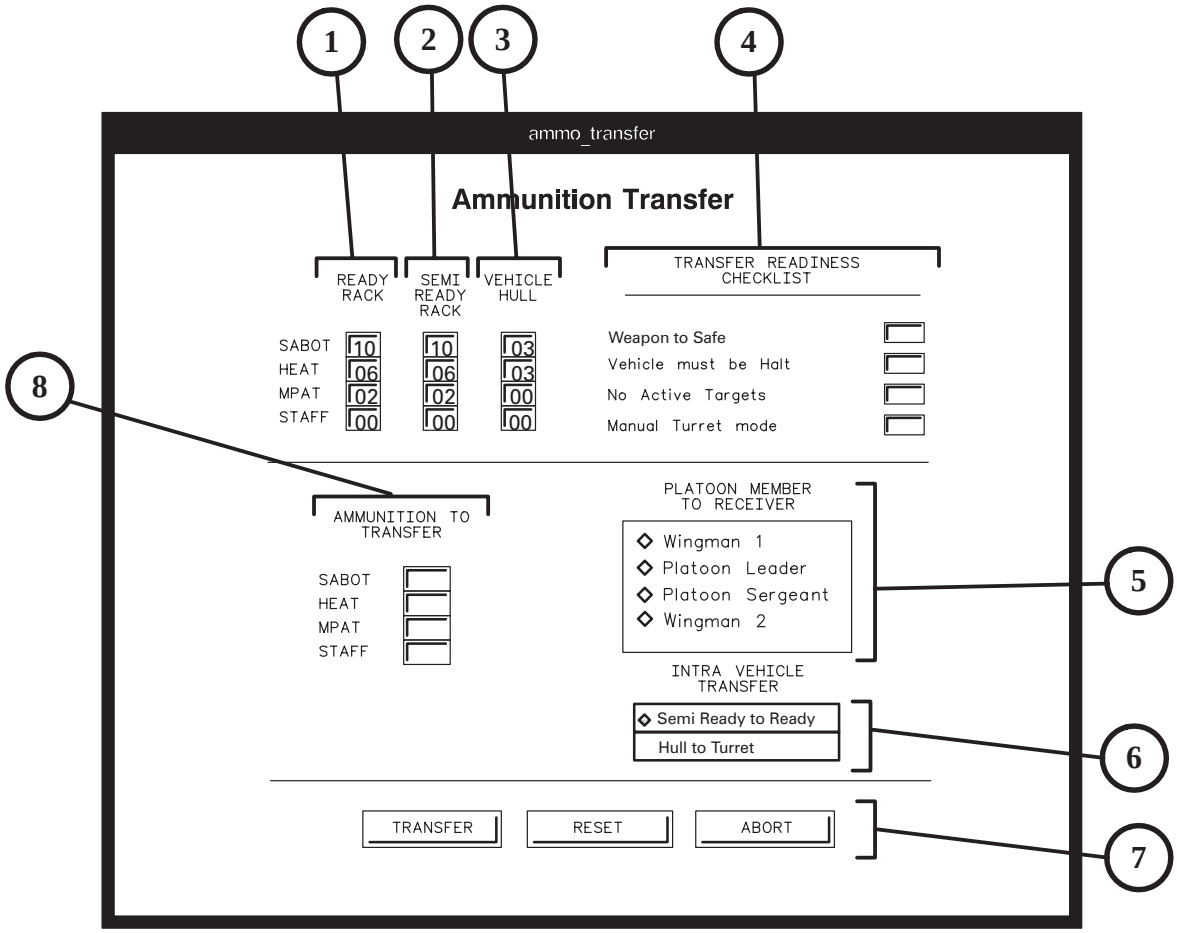


Figure 2–32. Ammunition Transfer Display Page

Key	Control or Indicator	Function
1	READY RACK	Indicates number of SABOT, HEAT, M–PAT, or STAFF rounds available in Ready Rack.
2	SEMI READY RACK	Indicates number of SABOT, HEAT, M–PAT, or STAFF in the Semi Ready Rack available for transfer.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	VEHICLE HULL	Indicates number of SABOT, HEAT, M–PAT, or STAFF rounds in Vehicle Hull available for transfer.
4	TRANSFER READINESS CHECKLIST	The options listed below are required to be set before a successful ammunition transfer can be accomplished. Exercise must be in freeze mode. Option field turns red if the field is incorrectly set for ammo transfer.
	a. Weapon to safe	Main gun safe switch must be set to safe position.
	b. Vehicle must be Halt	Ownvehicle must be halted. This is accomplished by pressing the Stop/Go key on IOS keypad (Figure 2–14) or selecting the Stop/go icon on GUI electronic keyboard (see page 2–46).
	c. No Active Targets	All enemy targets must be destroyed or deactivated.
	d. Manual Turret mode	The operating mode must be set to “MANUAL” only if ammunition is being transferred from Vehicle Hull to Ready Rack.
5	PLATOON MEMBER TO RECEIVER	I/O uses the mouse to select the platoon member who is to receive the ammunition.
	Wingman 1	Platoon leader’s wingman.
	Platoon Leader	Platoon leader.
	Platoon Sergeant	Platoon sergeant.
	Wingman 2	Platoon sergeant’s wingman.
6	INTRA VEHICLE TRANSFER	I/O uses the mouse to select type of transfer desired:
	Semi Ready to Ready	Request for ammo to be transferred from turret semi ready rack to turret ready rack.
	Hull to Turret	Request for ammo to be transferred from hull to turret.
7	TRANSFER RESET ABORT	Select “TRANSFER” to initiate ammunition transfer. Select “RESET” to return setting to original setting. Select “ABORT” to cancel an ammunition transfer in progress.
8	AMMUNITION TO TRANSFER SABOT HEAT MPAT STAFF	I/O must select type in the number of rounds to be transferred. If the number of rounds entered by I/O are greater than the number available for transfer, the ammunition transfer fields will turn red.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.33 DATA MONITOR DISPLAY PAGE

The Data Monitor display page appears when “Data Monitor” icon is selected from the Graphic Users Interface Electronic Keyboard (see page 2–46). This display permits the I/O to monitor data entered during boresight procedure.

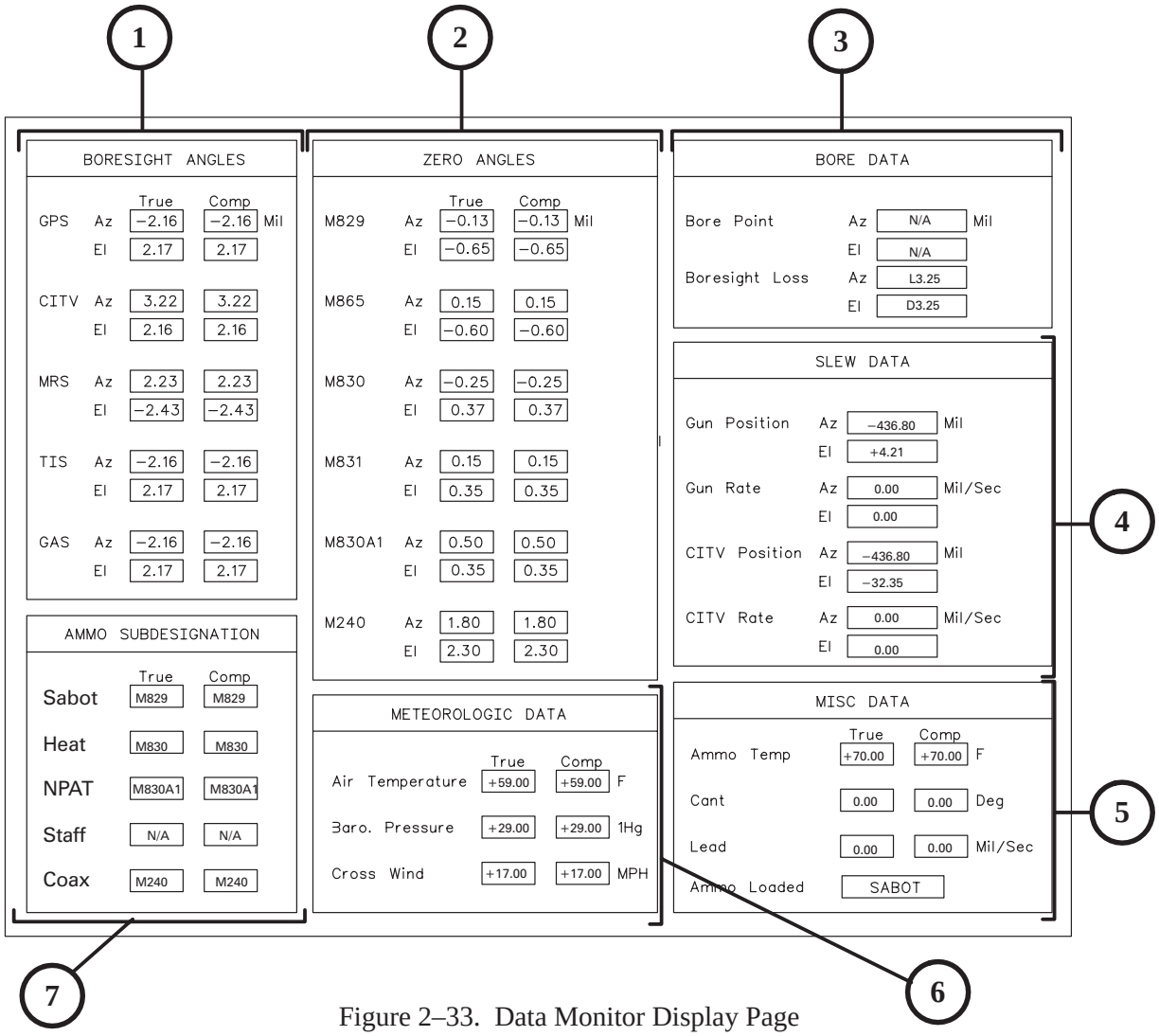


Figure 2–33. Data Monitor Display Page

Key	Control or Indicator	Function
1	BORESIGHT ANGLES fields	“True” AZ and EL column displays data programmed in software. “Comp” column displays reading entered by the crew in crew station.
2	ZERO ANGLES fields	“True” column indicates AZ and EL reading programmed in software. “Comp” column indicates AZ and EL data entered by crew in crew station.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	BORE DATA fields	Bore Point – Indicates main gun position in "Az" (azimuth) and "El" (elevation) in relation to upper left corner of the boresight panel. This field will indicate "N/A" in the Az and El fields in exercises other than boresight. Boresight Loss – Indicates main gun MRS loss after each main gun round is fired.
4	SLEW DATA fields	Indicates Gun and CITV position in "Az" (azimuth) and "El" (elevation) in relation to front of tank. Gun and CITV Rate are displayed when traversed.
5	MISC DATA fields	Indicates ammunition temperature settings programmed into the system for ammo temperature in degrees in the "True" field and the ammo temperature entered by crew during boresight procedures in the "Comp" field. The Cant and Lead "True" and "Comp" fields default to "0.00" until the Cant or Lead difference is detected by the computer. The Ammo Loaded field displays ammunition loaded in main gun.
6	METEOROLOGIC DATA fields	"True" column indicates data programmed in system software. "Comp" column indicates data entered by crew during boresight procedures for: Air Temperature; Baro. Pressure; and Cross Wind.
7	AMMO SUBDESIGNATION fields	"True" column indicates ammunition subdesignation data programmed in system software. "Comp" column indicates ammunition subdesignation data for each type of ammo: SABOT, HEAT, MPAT, STAFF or COAX data entered by crew during boresighting procedures.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.34 PRINT DISPLAY PAGE

The Print display page appears at the end of training exercises and permits the I/O to print a copy of the Situation Monitor, Performance Analysis, Shot Pattern, IVIS Reports and Overlays generated during exercise. If the I/O does not desire to print a copy of a display, report or overlay, click on the box to the left of the option not desired.

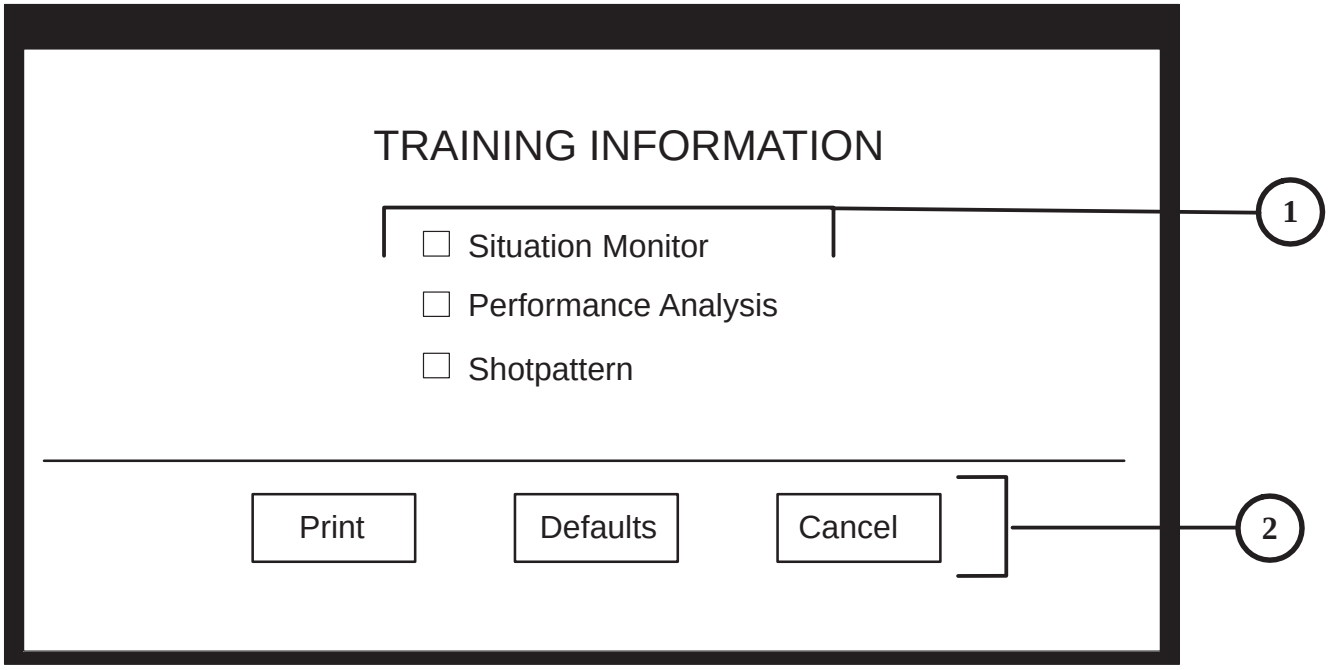


Figure 2–34. Print Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Situation Monitor, Performance Analysis, Shotpattern	When selected (green indicator to the left of available options are highlighted), a copy of each display will print at the terminal printer.
2	Print, Default, Cancel	When “Print” option is selected, all records selected will print at terminal printer. When “Defaults” option is selected, all options will default to original setting. When “Cancel” option is selected, print option is cancelled.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.35 TRAINING MANAGEMENT SYSTEM (CREW/PLATOON RECORDS LIST) DISPLAY PAGE

The “Records” option permits the I/O or Training Manager to view a list of all crew and/or platoon records stored on the AGTS system disk. When “Record” option is selected, “Crew and/or Platoon Records List” appears on terminal screen. When one of the available options are selected (Crew or Platoon), the “Student List Dialog Popup or Platoon List Dialog Popup” display appears.

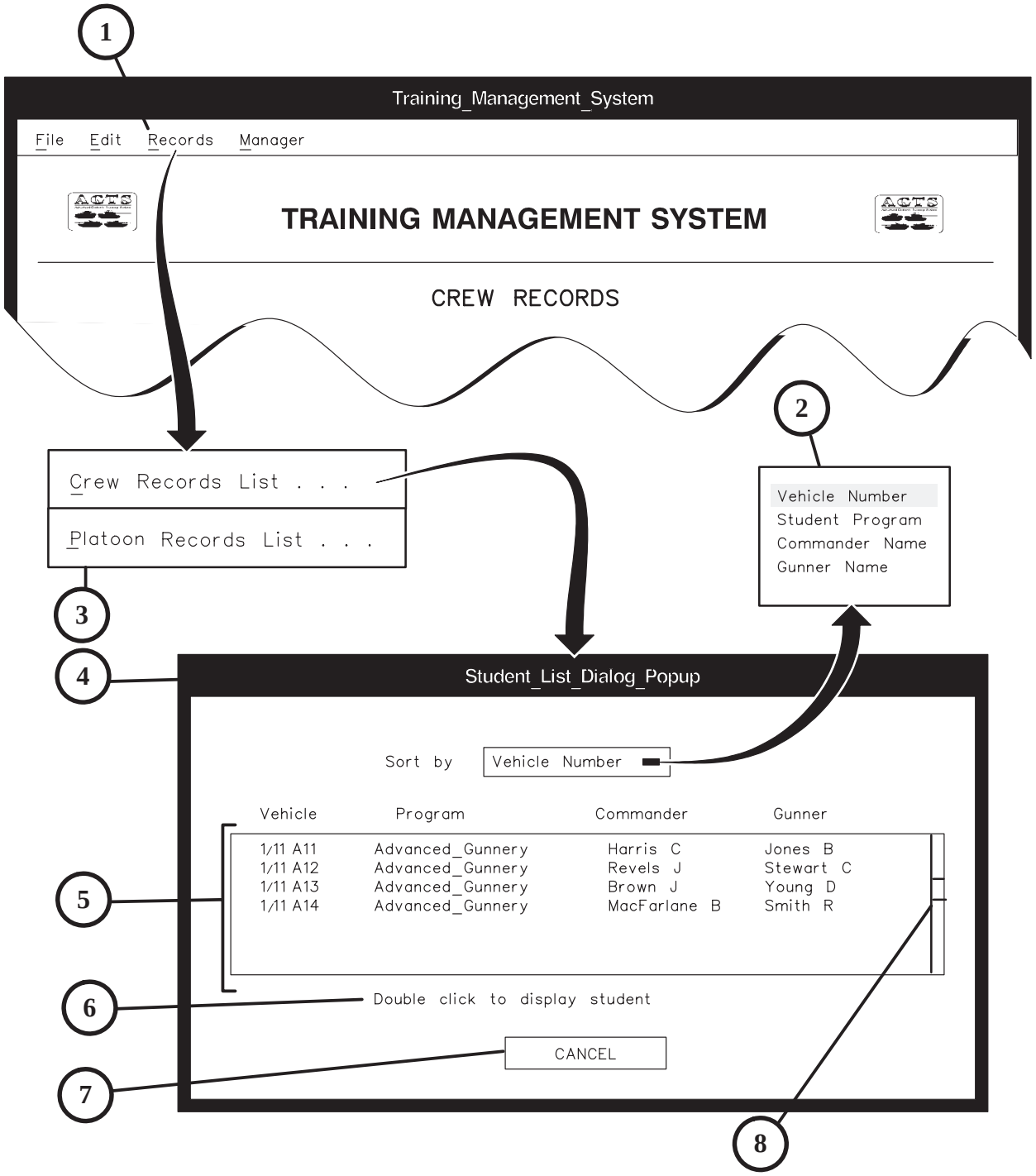


Figure 2–35. Training Management System (Crew/Platoon Records List) Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Records option	Permits I/O or Training Manager to select and view Crew or Platoon Records.
2	Sort by Vehicle Number option	When selected, records are sort as listed:
	Vehicle Number	By Vehicle Number.
	Student Program	By Student Program.
	Commander Name	By Commander's Name.
	Gunner Name	By Gunner's Name.
3	Crew Records or Platoon List . . . option	When selected, Student List Dialog Popup display (4) appears on terminal screen.
4	Student or Platoon List Dialog Popup display page	Provides lists of Vehicle or Platoon names, Training Program, Commander's and Gunner's names.
5	Crew Record data fields	The first column provides "Vehicle" names. Second column provides a list of training "Programs" that crew's are assigned. Third column provides a list of "Commanders" names. Fourth column provides a list of "Gunners" names.
6	Double click to display student option	Use left button and double click on desired Crew Record or Platoon Record for viewing (see page 2–76).
7	CANCEL button	When selected, cancels "Student List Dialog Popup" selection display.
8	Up/Down scroll bar	Use left button to scroll up or down to view additional records.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.36 TRAINING MANAGEMENT SYSTEM (CREW RECORDS) DISPLAY PAGE

Training Management System (Crew Record) display page provides a list of exercises previously fired by the crew. This display permits the I/O to view crews overall performance. Additionally, the I/O can print a copy of this record (see page 2–76). To select additional crew records from this display, refer to Training Management System (Crew Records List) display page (see page 2–72). The system will store 200 sets of crew records with 100 exercise for each crew.

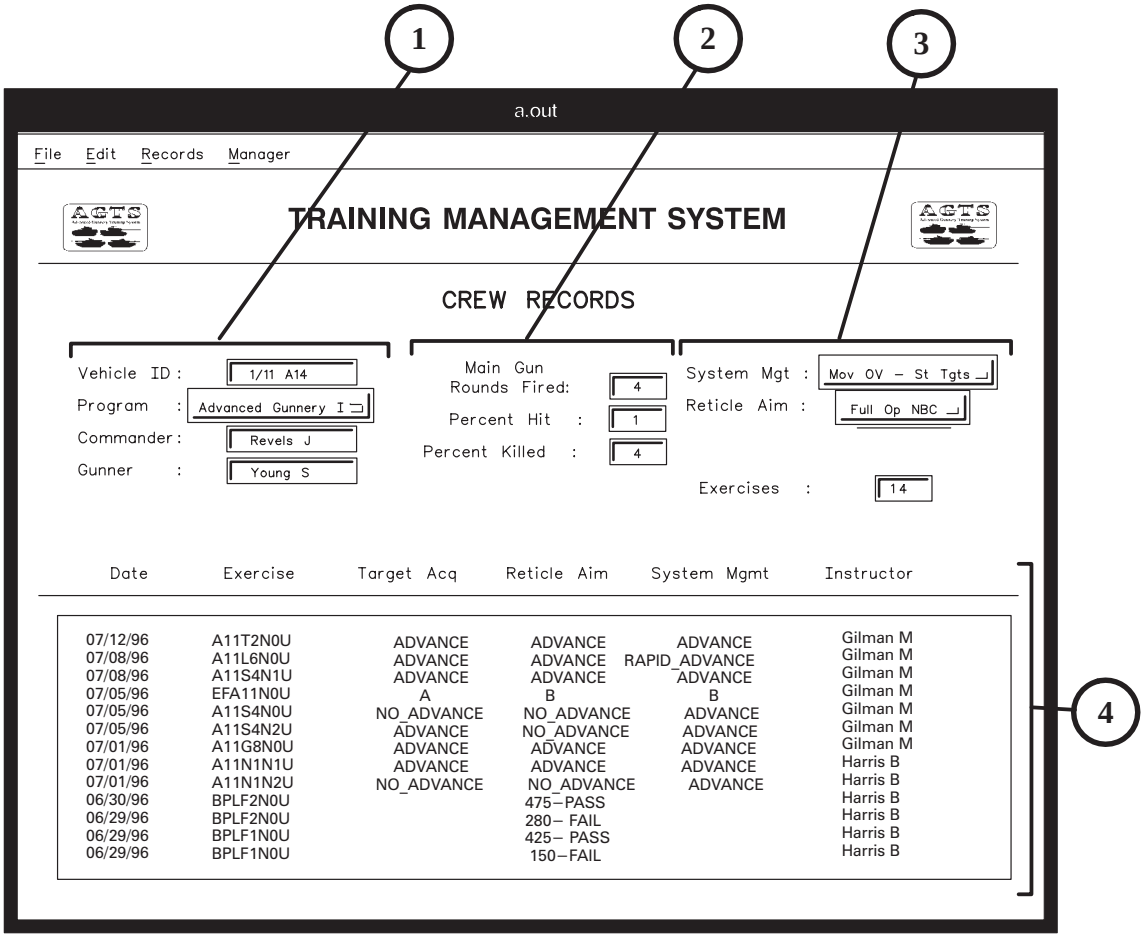


Figure 2–36. Training Management System (Crew Records) Display Page

Key	Control or Indicator	Function
1	Vehicle ID:	Vehicle number.
	Program:	Programs available: Basic, Advanced Gunnery I, II, III, and Sustainment. The I/O cannot change training programs.
	Commander:	Commander’s name.
	Gunner:	Gunner’s name.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	Main Gun Rounds Fired:	Number of main gun rounds fired.
	Percent Hit:	Percentage of target hits with Main Gun.
	Percent Killed:	Percentage of targets kills.
3	System Mgt:	Four system management levels: (1) Stationary Ownvehicle – Stationary Target, (2) Moving Ownvehicle – Stationary Target, (3) Stationary Ownvehicle – Moving Target, and (4) Moving Ownvehicle – Moving Target. Only Training Manager can change Reticle Aim levels.
	Reticle Aim:	Nine reticle aim levels: (1) Fully Operational Day, (2) Fully Operational Night, (3) NBC Malfunction, (4) Stabilization Failure, (5) Laser Rangefinder Failure, (6) CITV Engagement, (7) GPS/GPSE & CCH failure, (8) Manual, and (9) GPSE Engagement. Only Training Manager can change Reticle Aim levels.
4	Data fields	First column identifies “Date” exercise(s) was fired. Second column identifies “Exercise” number fired. Third column identifies “Target Acq” grades for Advanced Gunnery and Special Purpose exercises. Fourth column identifies “Reticle Aim” grades for Advanced Gunnery and Special Purpose fired and/or a Pass/Fail grade for Basic Gunnery exercises. Fifth column identifies “System Management” grades for Advanced Gunnery and Special Purpose exercises. Sixth column identifies the “Instructor” that conducted the training session.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.37 TRAINING MANAGEMENT SYSTEM (FILE OPTIONS) DISPLAY PAGE

Training Management System (File Options) display page presents options that can be performed by the Instructor/Operator and the Training Manager. This display permit the I/O to print Crew, Platoon, Company Summary or Backup crew records (see page 2–84). The options “File, Edit, Records, and Manager” permits the manager to view, print, backup, reposition, rename, delete and/or restore crew record(s) (Chapter 4).

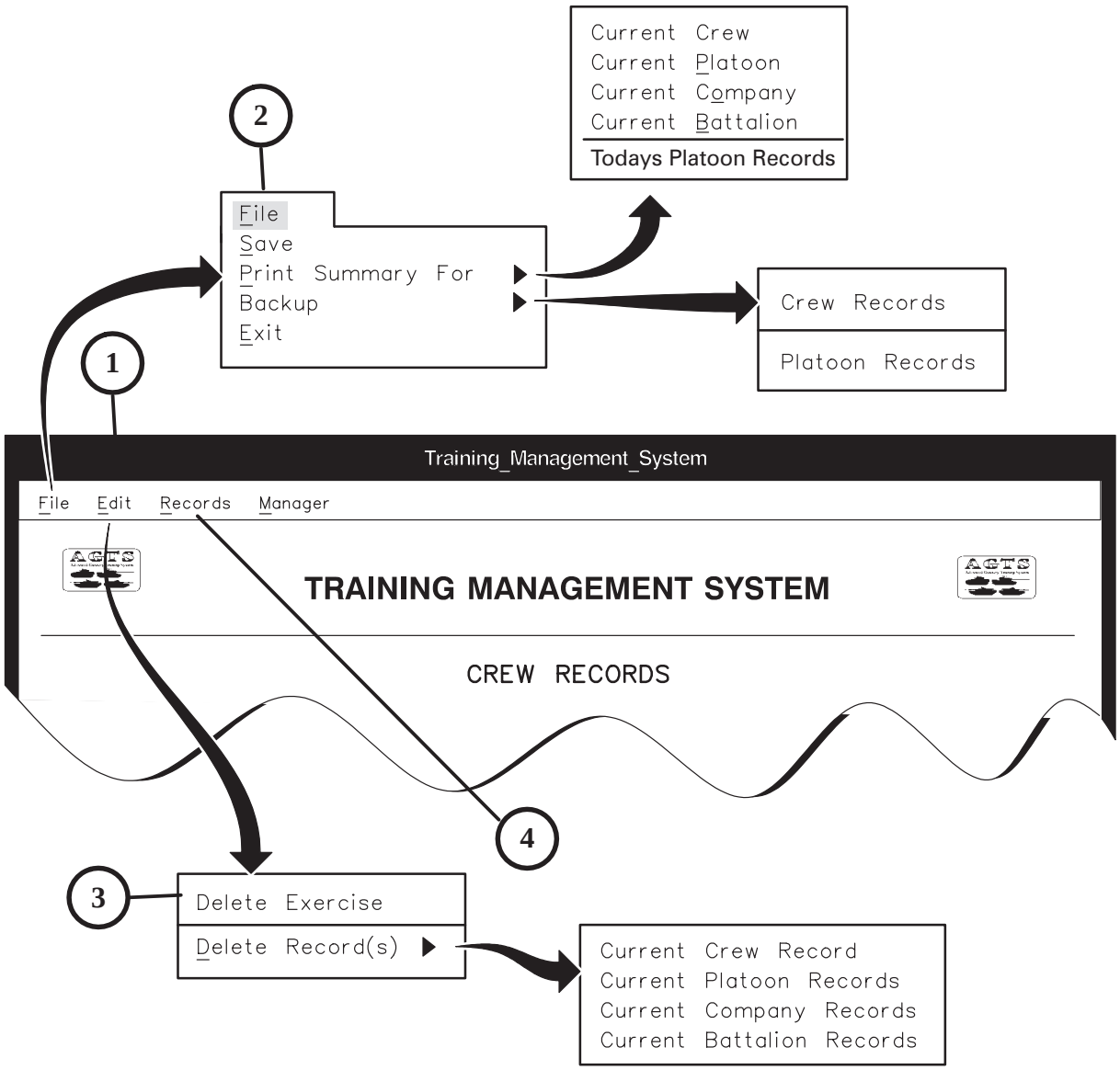


Figure 2–37. Training Management System (File Options) Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	File options	When selected, options listed below are available:
	Save option	When selected, saves changes made to Crew Records.
	Print Summary For, options	When selected, prints records for Crew, Platoon, Company, Battalion or Todays Platoon Records.
	Backup, options	Available to I/O (see page 2–84).
		Available to Training Manager (see Chapter 4).
	Exit option	When I/O selected “Exit” the Training Management System mode is terminated and Mode Select display page appears.
		When Training Manager selected “Exit” the Training Management System mode is terminated and Users Log–in display page appears.
3	Edit options	Permits the Training Manager to:
	Current Crew Records	Delete Crew Records.
	Current Platoon Records	Delete Platoon Records.
	Current Company Records	Delete Company Records.
	Current Battalion Records	Delete Battalion Records.
		Available to Training Manager only (see Chapter 4).
4	Records	Record selection procedures are described in Chapter 4.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.38 TRAINING MANAGEMENT SYSTEM (MATRIX REPOSITIONING) DISPLAY PAGE

Training Management System (Matrix Repositioning) display page appears when the Training Manager double clicks left mouse button on desired crew record from Student List Dialog Popup display page (see page 2–72). This page permits the manager to reposition crews in the training matrix, refer to Chapter 4 for step–by–step procedures.

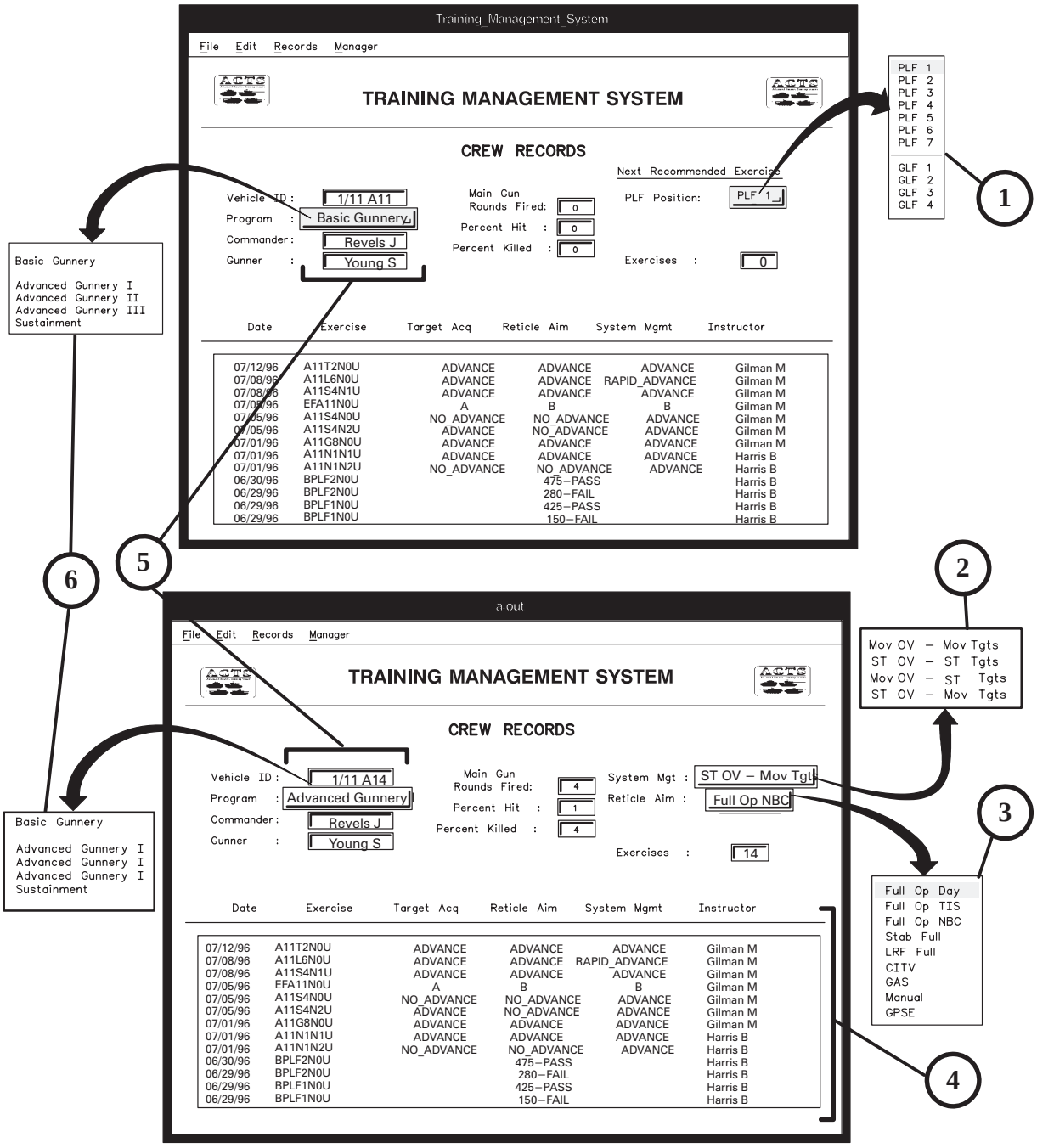


Figure 2–38. Training Management System (Matrix Repositioning) Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	PFL (Pre–Live Fire) Position options	Permits Training Manager to select any of the 7 – Pre–Live Fire Levels (PLF) or 4 – Gate to Live Fire levels (GLF). (See Chapter 4 for Basic Gunnery repositioning).
2	System Mgt: options	Permits Training Manager to select any of the four System Management levels: (1) Stationary Ownvehicle – Stationary Target, (2) Moving Ownvehicle – Stationary Target, (3) Stationary Ownvehicle – Moving Target, or (4) Moving Ownvehicle – Moving Target. (See Chapter 4 for Advanced Gunnery repositioning).
3	Reticle Aim: options	Permits Training Manager to select any of the nine Reticle Aim levels: (1) Fully Operational Day, (2) Fully Operational Night, (3) NBC Malfunction, (4) Stabilization Failure, (5) Laser Rangefinder Failure, (6) CITV Engagement, (7) GPS/GPSE & CCH failure, (8) Manual, or (9) GPSE Engagement. (See Chapter 4 for Advanced Gunnery repositioning).
4	Data fields	Permits Training Manager to delete an exercise or a crew record. Prior to deleting a crew record, ensure records have been backed up to tape. (See Chapter 4 for deleting or backing up records).
5	Vehicle ID, Commander or Gunner fields	Permits Training Manager to change The Vehicle ID, Commander's name, and/or Gunner's name. (See Chapter 4 for changing vehicle or crew names).
6	Program options	Permits Training Manager to select any of the five training programs: (1) Basic Gunnery, (2) Advanced Gunnery I, (3) Advanced Gunnery II, (4) Advanced Gunnery III, or (5) Sustainment. (See Chapter 4 for reposition crews in matrix).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.39 TRAINING MANAGEMENT SYSTEM (CHANGE PASSWORD) DISPLAY PAGE

Training Management System (Change Password) display Page appears when the Training Manager has logged–in with the manager's password. This display permits the manager to change the system password, refer to Chapter 4 for step–by–step procedures.

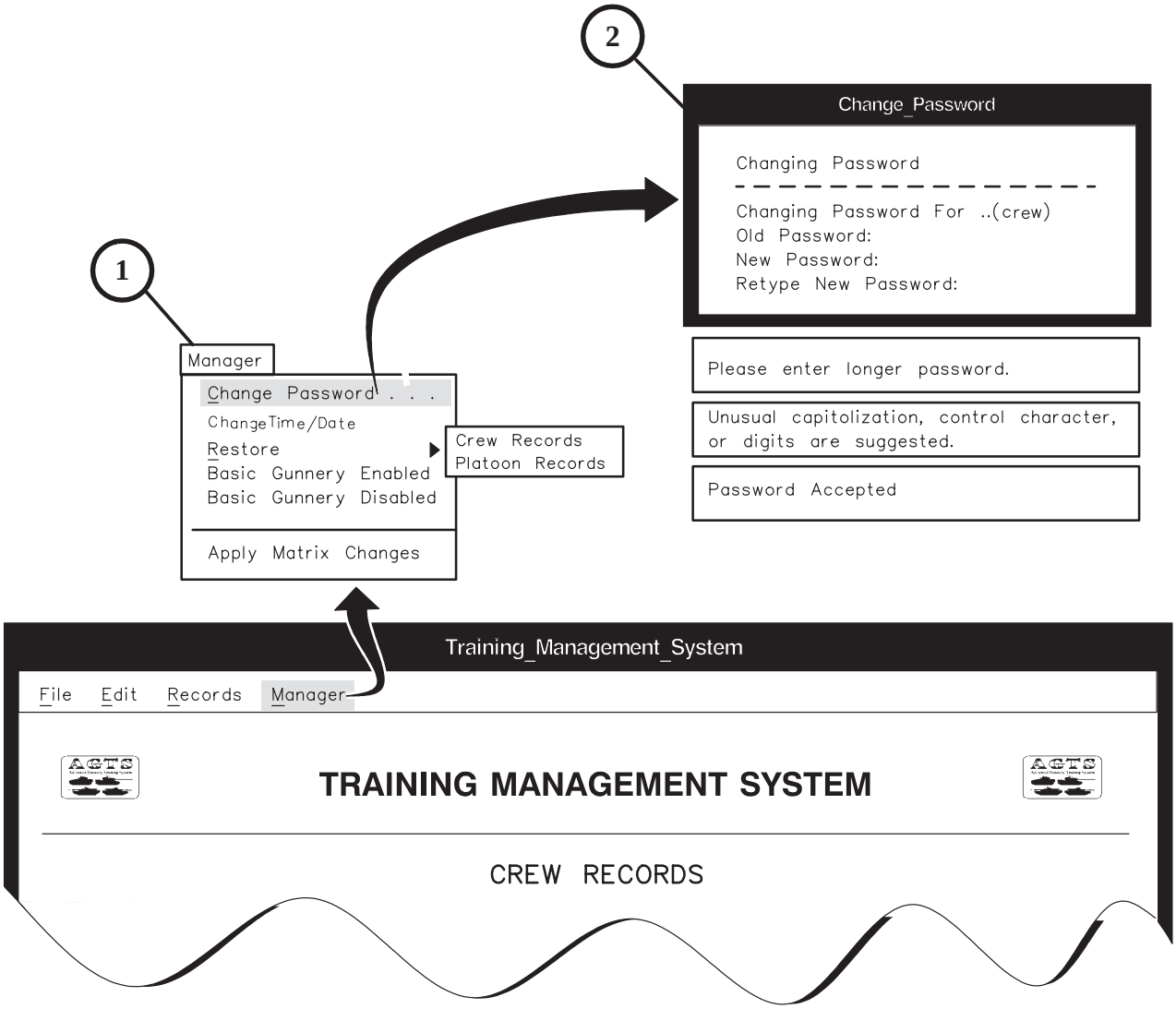


Figure 2–39. Training Management System (Change Password) Display Page

Key	Control or Indicator	Function
1	Manager Options	Listed below are options that can only be performed by the Training Manager:
	Change Password . . . option	Request for Training Manager to change system password.
	Restore option	When selected, permits Training Manager to:
	Crew Records	Restore crew records (see page 2–80).
	Platoon Records	Restore platoon records (see page 2–80).
	Basic Gunnery Enable	When selected, permits crews currently enrolled in the Advanced Gunnery Skills program to switch between the Advanced and Basic Gunnery program.
	Basic Gunnery Disable	When selected, disallow currently enrolled crews in the Advanced Gunnery Skills training program to be switch between Advanced and Basic Gunnery program.
	Apply Matrix Changes	When selected, applies all changes made to Crew records.
2	Changing Password	When change password option has been selected, the following prompts will appear:
	Change Password for (crew)	Indicates which password will be changed (crew or platoon).
	Old Password:	Request for Training Manager to enter current password.
	New Password:	Request for Training Manager to enter new password. Password must be at least six characters.
	Retype New Password	Request for Training Manager to re–enter new password.
	Please enter longer password	Requests a password to be entered with at least six characters and a maximum of eight characters.
	Unusual capitalization, control character, or digits are suggested	Appears if password entered was all lower case (for best results, use a mix of lower and upper case characters).
	Password Accepted	Correct password was entered and the system has accepted the new password.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.40 TRAINING MANAGEMENT SYSTEM (SET SYSTEM CLOCK) DISPLAY PAGE

Training Management System (Set System Clock) display Page appears when the Training Manager has logged–in with the manager's password. This display permits the manager to set the system clock, refer to Chapter 4 for step–by–step procedures.

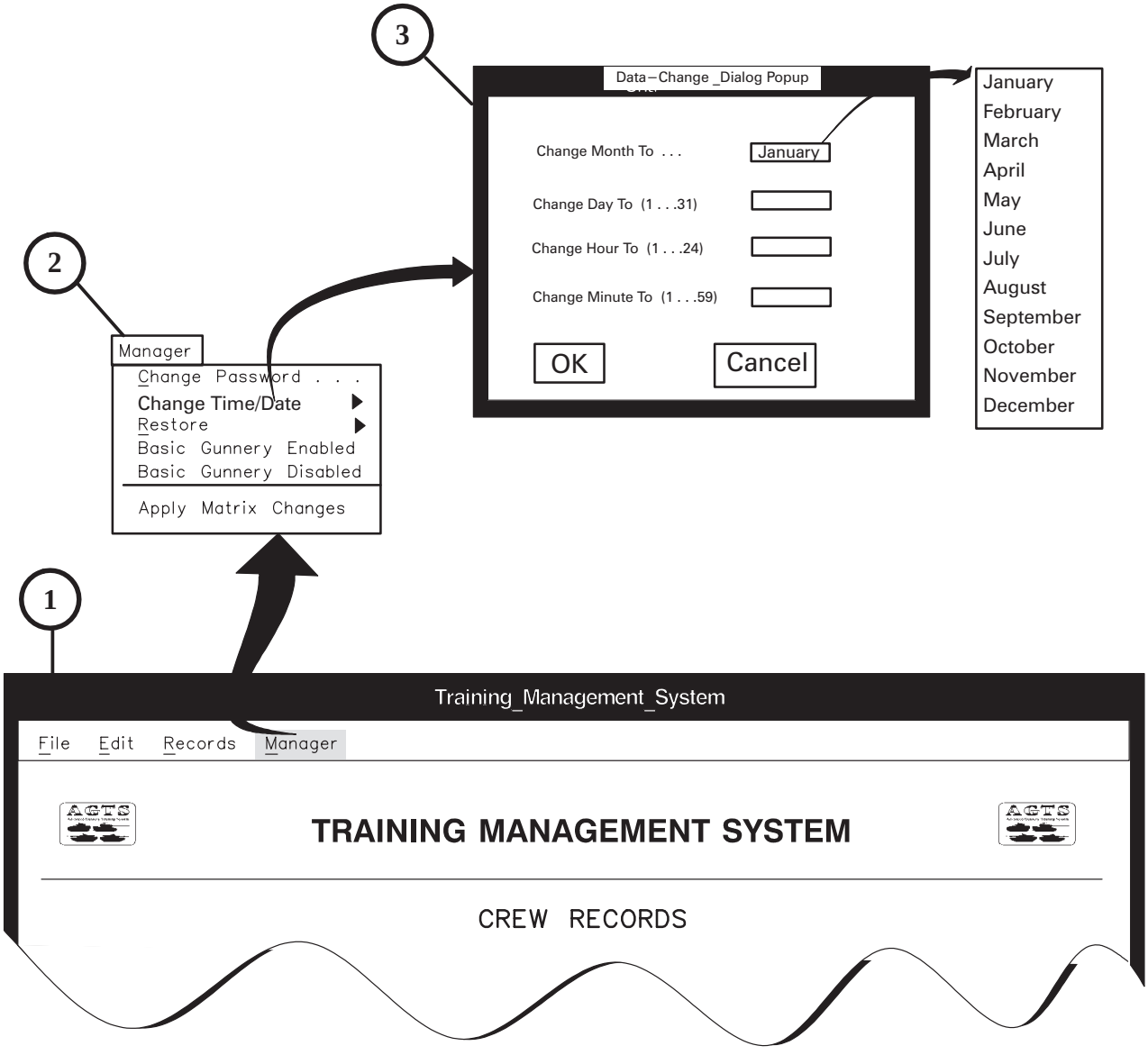


Figure 2–40. Training Management System (Set System Clock) Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Training Management System – Crew Record	Permits Training Manager to perform Manager's duties.
2	Change Time/Date option	When selected, causes Date/Time popup display (3) to appear on terminal screen.
3	Date Change Dialog Popup display	Contains the following options:
	Change Month To . . .	Twelve months of the year can be selected.
	Change Day To (1 . . . 31)	Thirty one days of the month can be entered.
	Change Hour To (1 . . . 24)	Twenty four hours of the day can be entered.
	Change Minute To (1 . . 59)	Sixty minutes of the hour can be entered.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.41 RECORD BACKUP AND RESTORE DISPLAY PAGE

Record Backup and Restore display Page appears when Training Manager has logged–in with the manager's password. This display permits the manager to back–up or Restore crew or platoon records, refer to Chapter 4 for step–by–step procedures.

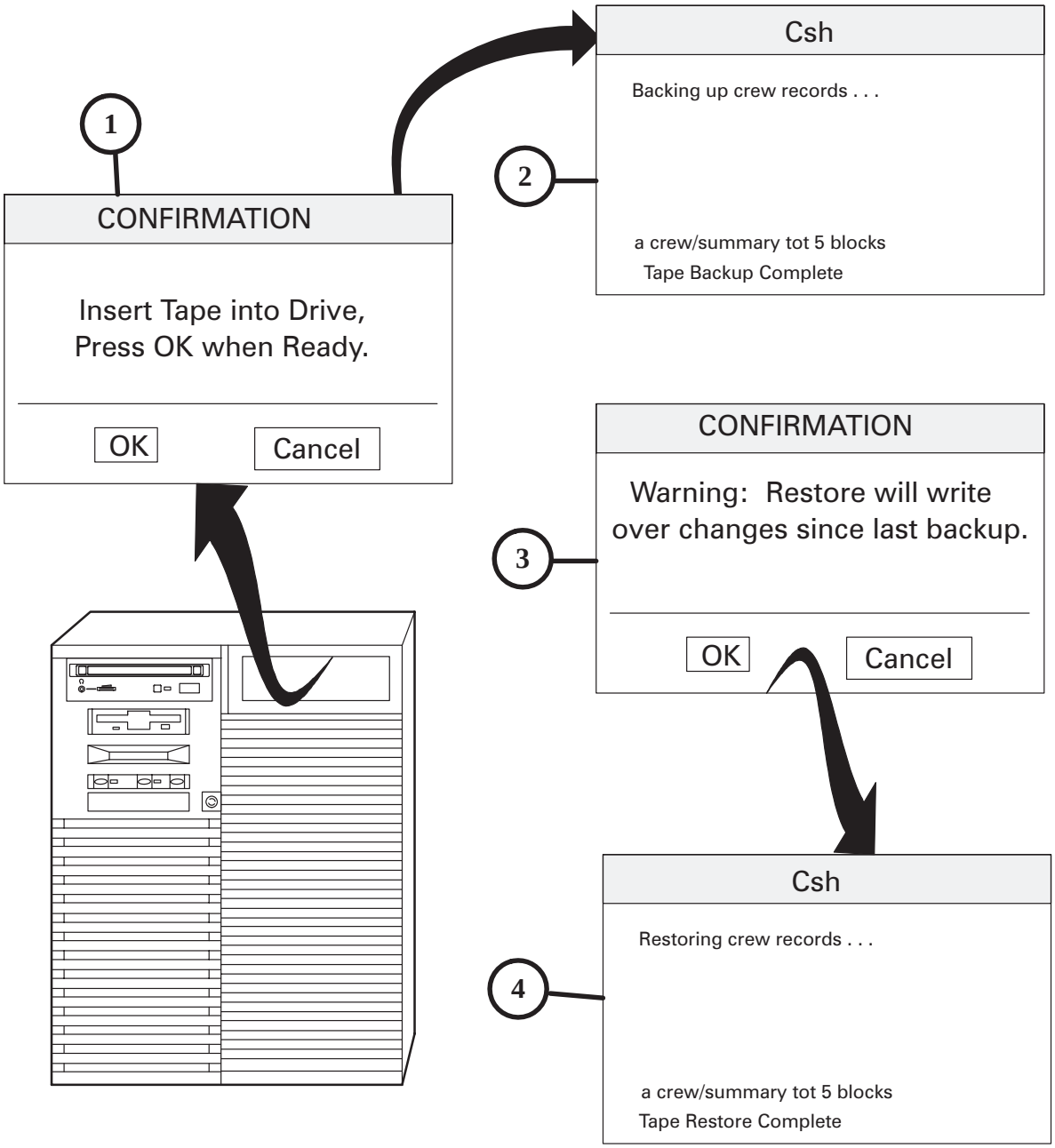


Figure 2–41. Record Backup and Restore Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Backup Confirmation display	Displays at the IOS when backup is selected from Training Management System display (see page 2–76). This option permits the I/O or Training Manager to backup crew or platoon records to tape.
2	Backup Csh prompt	Displays at the IOS when a tape has been inserted in the General Purpose tape drive and “OK” prompt has been selected from Backup Confirmation display.
3	Restore Confirmation display	Displays at the IOS when Restore is selected from Training Management System – (Manager) display (see page 2–80). This option permits Training Manager to restore crew or platoon records to tape. Only the Training Manager can Restore records.
4	Restore Csh prompt	Displays at the IOS when a tape has been inserted in the General Purpose tape drive and “OK” prompt has been selected from Restore Confirmation display.

2.42 IOS TERMINAL PRINTER SHOT PATTERN PRINTOUT

The Shot Pattern Printout is printed on the Terminal Printer when I/O presses PRINT SHOT PATTERN key on terminal keyboard during a Freeze mode or selects Shot Pattern Icon on GUI electronic keyboard. The Shot Pattern Printout plots azimuth and elevation errors for projectile impact of first two main gun rounds fired at each target in an exercise. The center of the plot is the ideal aim point. Each vertical mark represents 0.2 mil deflection from the ideal aiming point and each horizontal mark represents 0.1 mil deflection from the ideal aiming point. Shots that fall outside the 3.0 mils elevation or 3.0 mils azimuth from the ideal aim point will not be plotted.

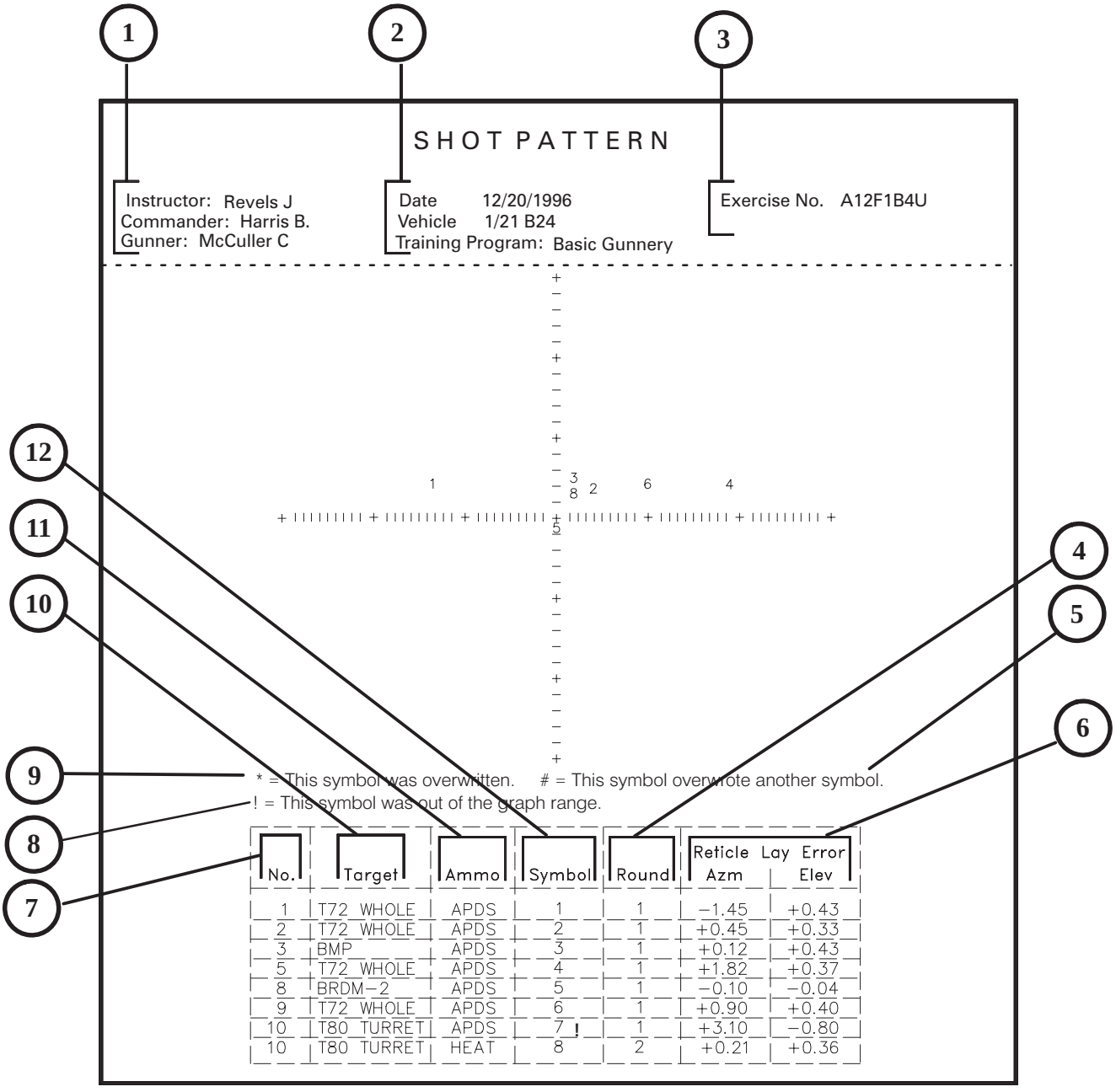


Figure 2–42. IOS Terminal Printer Shot Pattern Printout Display

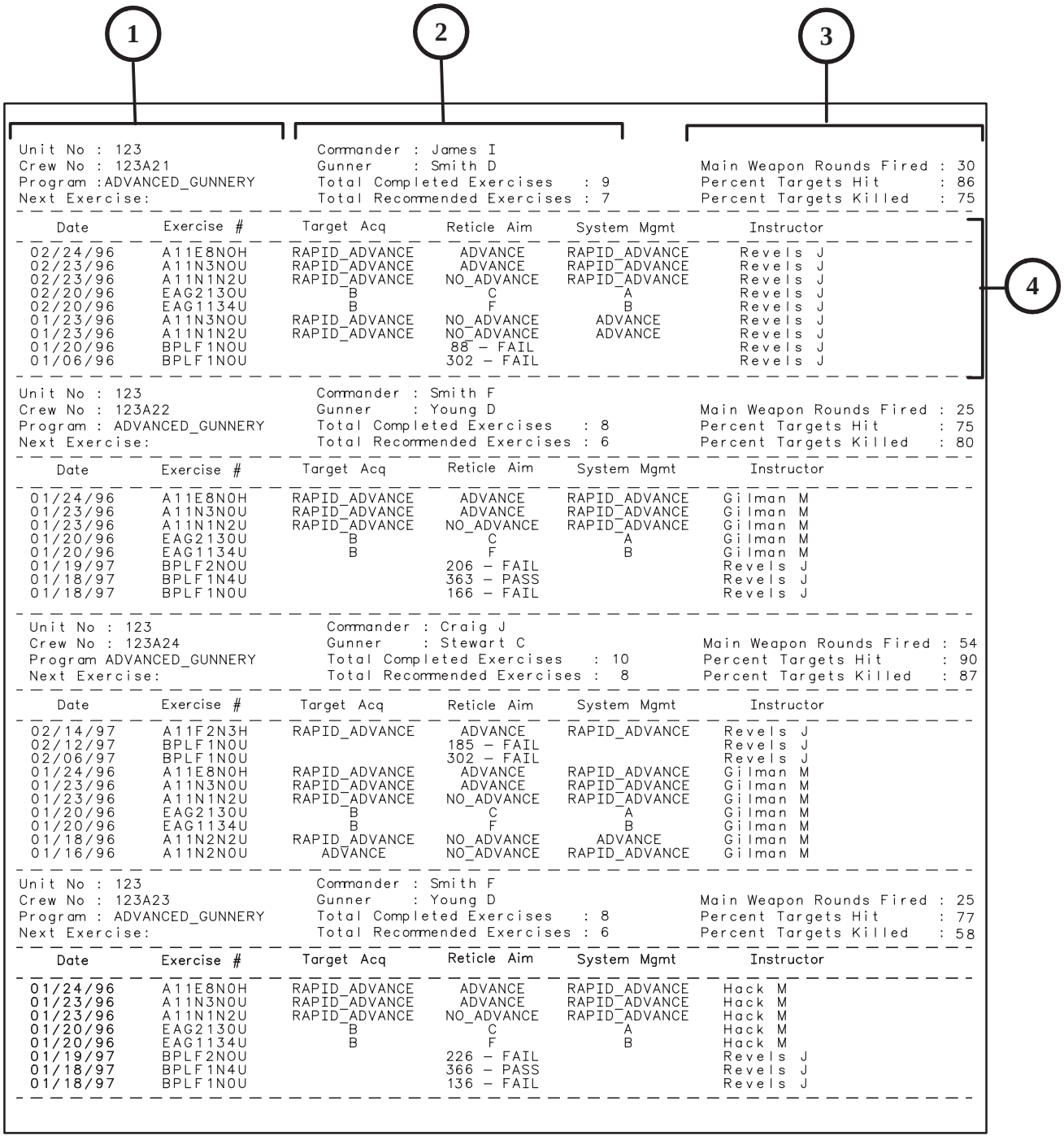
DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Commander: Gunner: Instructor:	Identifies Tank Commander, Gunner, and Instructor for the exercise associated with the Shot Pattern.
2	Date: Vehicle: Training Program:	Identifies Date of performance, Vehicle number, and Training Program for the shot pattern printout.
3	Exercise No.:	Identifies type of exercise (Special Purpose, Basic Gunnery, Advance Gunnery, or Sustainment).
4	Round	Identifies round 1 or 2 round fired at target.
5	# = This symbol overwrote another symbol	This symbol will print to the right of the symbol number when the symbol number in the situation has overwritten another symbol number.
6	Reticle Lay Error Azm/Elv	Identifies the Reticle Lay Error for the round fired; and azimuth error in mils (negative = left, positive = right), and elevation error in mils (negative = down, positive = up).
7	No.	Lists situation number associated with each target.
8	! = This symbol was out of graph Range.	This symbol will print to the right of symbol number when the round fired is greater than 3 mils from shot pattern center.
9	* = This symbol was overwritten.	This symbol will print to the right of the symbol number when the symbol in the situation has been overwritten.
10	Target	Identifies the type of targets for each situation.
11	Ammo	Identifies type of ammunition fired at target.
12	Symbol	Identifying number representing the round on the Shot Pattern plot.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.43 CREW IOS TRAINING UNIT SUMMARY PRINTOUT

Training Unit Summary Printout is a summary of training performances for each crew in the unit. The summary can be printed for the entire battalion or for a single crew by the I/O or Training Manager.



Unit No : 123 Commander : James I
Crew No : 123A21 Gunner : Smith D — Main Weapon Rounds Fired : 30
Program :ADVANCED_GUNNERY Total Completed Exercises : 9 — Percent Targets Hit : 86
Next Exercise: Total Recommended Exercises : 7 — Percent Targets Killed : 75

Date	Exercise #	Target Acq	Reticle Aim	System Mgmt	Instructor
02/24/96	A11E8NOH	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Revels J
02/23/96	A11N3NOU	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Revels J
02/23/96	A11N1N2U	RAPID_ADVANCE	NO_ADVANCE	RAPID_ADVANCE	Revels J
02/20/96	EAG2130U	B	C	A	Revels J
02/20/96	EAG1134U	B	F	B	Revels J
01/23/96	A11N3NOU	RAPID_ADVANCE	NO_ADVANCE	ADVANCE	Revels J
01/23/96	A11N1N2U	RAPID_ADVANCE	NO_ADVANCE	ADVANCE	Revels J
01/20/96	BPLF1NOU		88 – FAIL		Revels J
01/06/96	BPLF1NOU		302 – FAIL		Revels J

Unit No : 123 Commander : Smith F
Crew No : 123A22 Gunner : Young D — Main Weapon Rounds Fired : 25
Program : ADVANCED_GUNNERY Total Completed Exercises : 8 — Percent Targets Hit : 75
Next Exercise: Total Recommended Exercises : 6 — Percent Targets Killed : 80

Date	Exercise #	Target Acq	Reticle Aim	System Mgmt	Instructor
01/24/96	A11E8NOH	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Gilman M
01/23/96	A11N3NOU	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Gilman M
01/23/96	A11N1N2U	RAPID_ADVANCE	NO_ADVANCE	RAPID_ADVANCE	Gilman M
01/20/96	EAG2130U	B	C	A	Gilman M
01/20/96	EAG1134U	B	F	B	Gilman M
01/19/97	BPLF2NOU		206 – FAIL		Revels J
01/18/97	BPLF1N4U		363 – PASS		Revels J
01/18/97	BPLF1NOU		166 – FAIL		Revels J

Unit No : 123 Commander : Craig J
Crew No : 123A24 Gunner : Stewart C — Main Weapon Rounds Fired : 54
Program ADVANCED_GUNNERY Total Completed Exercises : 10 — Percent Targets Hit : 90
Next Exercise: Total Recommended Exercises : 8 — Percent Targets Killed : 87

Date	Exercise #	Target Acq	Reticle Aim	System Mgmt	Instructor
02/14/97	A11F2N3H	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Revels J
02/12/97	BPLF1NOU		185 – FAIL		Revels J
02/06/97	BPLF1NOU		302 – FAIL		Revels J
01/24/96	A11E8NOH	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Gilman M
01/23/96	A11N3NOU	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Gilman M
01/23/96	A11N1N2U	RAPID_ADVANCE	NO_ADVANCE	RAPID_ADVANCE	Gilman M
01/20/96	EAG2130U	B	C	A	Gilman M
01/20/96	EAG1134U	B	F	B	Gilman M
01/18/96	A11N2N2U	RAPID_ADVANCE	NO_ADVANCE	ADVANCE	Gilman M
01/16/96	A11N2NOU	ADVANCE	NO_ADVANCE	RAPID_ADVANCE	Gilman M

Unit No : 123 Commander : Smith F
Crew No : 123A23 Gunner : Young D — Main Weapon Rounds Fired : 25
Program : ADVANCED_GUNNERY Total Completed Exercises : 8 — Percent Targets Hit : 77
Next Exercise: Total Recommended Exercises : 6 — Percent Targets Killed : 58

Date	Exercise #	Target Acq	Reticle Aim	System Mgmt	Instructor
01/24/96	A11E8NOH	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Hack M
01/23/96	A11N3NOU	RAPID_ADVANCE	ADVANCE	RAPID_ADVANCE	Hack M
01/23/96	A11N1N2U	RAPID_ADVANCE	NO_ADVANCE	RAPID_ADVANCE	Hack M
01/20/96	EAG2130U	B	C	A	Hack M
01/20/96	EAG1134U	B	F	B	Hack M
01/19/97	BPLF2NOU		226 – FAIL		Revels J
01/18/97	BPLF1N4U		366 – PASS		Revels J
01/18/97	BPLF1NOU		136 – FAIL		Revels J

Figure 2–43. Crew IOS Training Unit Summary Printout

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Unit No:, Crew No:, Program:, Next Exercise	Unit No: = Numeric identifier for battalion. Crew No: = Numeric identifier for battalion, company and platoon. Program: = Identifies the assigned program. Next Exercise: = This field is blank.
2	Commander:, Gunner:, Total Completed Exercises:, Recommended Exercises:	Commander = Tank commander's name. Gunner = Tank gunner's name. Total Completed Exercises = Lists total number of I/O selected and computer recommended exercises fired. Total Recommended Exercises = Lists total number computer exercises fired.
3	Main Weapon Rounds Fired: Percent Targets Hit: Percent Targets Killed:	Main weapon rounds fired = Total number main gun rounds fired. Percent targets hit = Percentage of main gun rounds hit divided by total number of main gun target presented. Percent targets killed = Percentage of main gun targets killed divided by total number of main gun targets presented.
4	Date column	Date training session was conducted.
	Exercises # column	List of exercise numbers for all computer recommended and remedial exercises fired.
	Target Acq column	List of target acquisition grades for all Advanced Gunnery Skills and Special Purpose exercises fired.
	Reticle Aim column	List of reticle aim grades for all Advanced Gunnery Skill, Special Purpose exercises fired. Additionally, scores for Basic Gunnery Skill exercise followed by a Pass or Fail grade.
	System Management	List of system management grades for all Advanced Gunnery Skills and Special Purpose exercises fired.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.44 CREW IOS SESSION SUMMARY PRINTOUT

The Session Summary is a summary of all exercises performed during the current training session. The I/O will be prompted to print the session summary at the conclusion of the training session. The Session Summary is printed on the Terminal Printer and not shown on the Display Terminal.

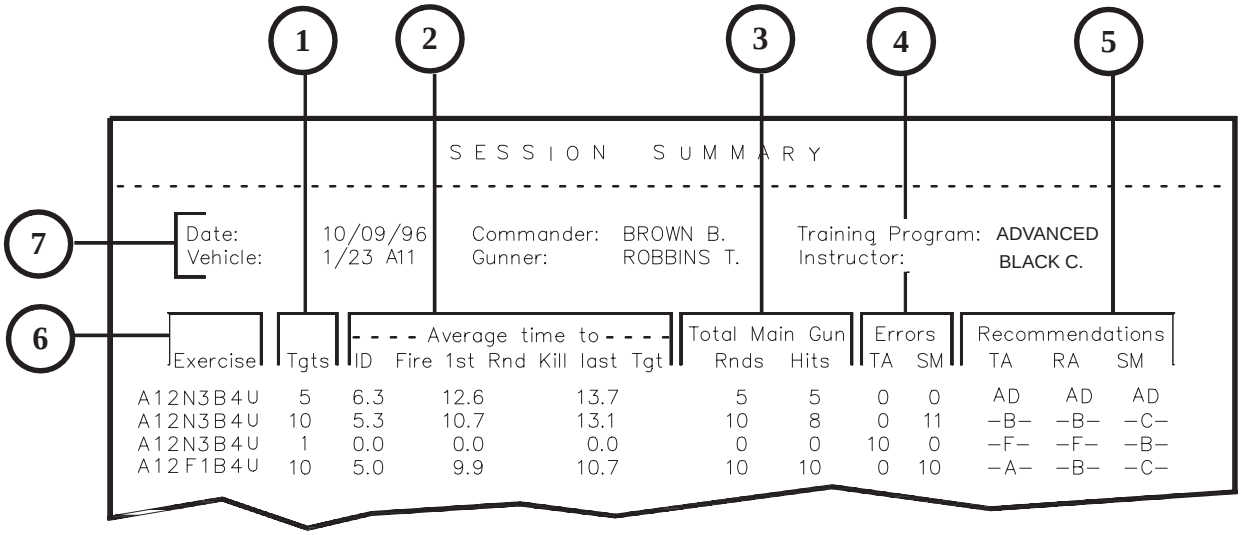


Figure 2–44. Crew IOS Session Summary Printout Display

Key	Control or Indicator	Function
1	Tgts	Number of targets associated with each exercise.
2	Average time to	Average times recorded for each exercise to:
	ID	– Identify first target in each situation
	Fire 1st Rnd	– Fire at first target in each situation
	Kill last Tgt	– Fire killing round at last target in each situation
3	Total Main Gun	For each exercise, total number of main gun:
	Rnds	– Total number rounds fired
	Hits	– Total number hits made on targets
4	Errors	For each exercise, total number of errors for:
	TA, SM	– Total number of Target Acquisition and System Management Errors
5	Recommendations	Provides an abbreviation score for a computer recommended exercise and a single letter score for an instructor–selected exercise or for a repeated computer–recommended exercise. Scores are provided for the categories of TA (target acquisition), RA (reticle aim), and SM (system management). Abbreviation and letter score for each category is described on page 2–61.
	TA, RA, SM	
6	Exercise	Identification numbers of exercises conducted during the training session.
7	Date: Vehicle:Commander:	Training Session identification data at the top of the printout.
	Gunner:Training Program:	This data is the same data entered during initialization of the
	Instructor:	training session.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

SECTION III. Platoon Mode Displays And Printouts

2.45 PLATOON MODE IOS USER LOG–IN DISPLAY PAGE

Platoon Mode Instructor/Operator Station (IOS) User Log–in display page appears automatically at each IOS when system Log–off is completed. This display enables the Instructor/Operators (I/O) to Log–in to various modes of platoon operation.

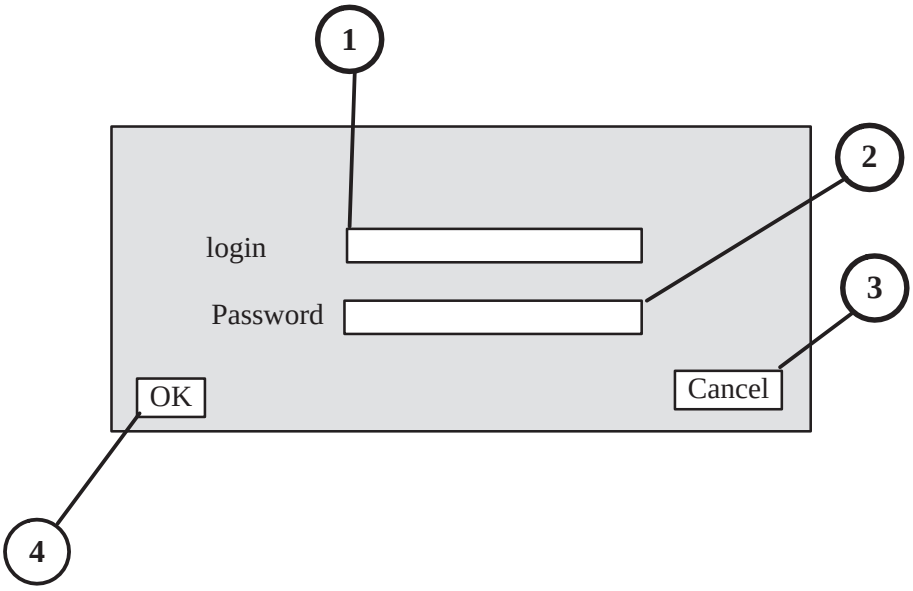


Figure 2–45. Platoon Mode IOS User Log–in Display Page

Key	Control or Indicator	Function
1	login: field	Request for user to type–in one of the AGTS platoon user accounts: “leader” for platoon leader training or “member” for platoon member (i. e.; Platoon Sergeant, Wingman1 or Wingman2) training or “manager” to review or print platoon records.
2	Password: field	Requests user to enter password via IOS keyboard. Entered password will not be displayed.
3	Cancel button	When highlighted, use Return key or mouse to cancel Username or Password data field.
4	OK button	When “OK” button is highlighted, the press Return key or use mouse to confirm entry.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.46 PLATOON MODE SELECT DISPLAY PAGE

Platoon Mode IOS Mode Select display page appears at each IOS when system Log–in has been accomplished. This display enables the Instructor/Operator (I/O) to select desired mode of operation.

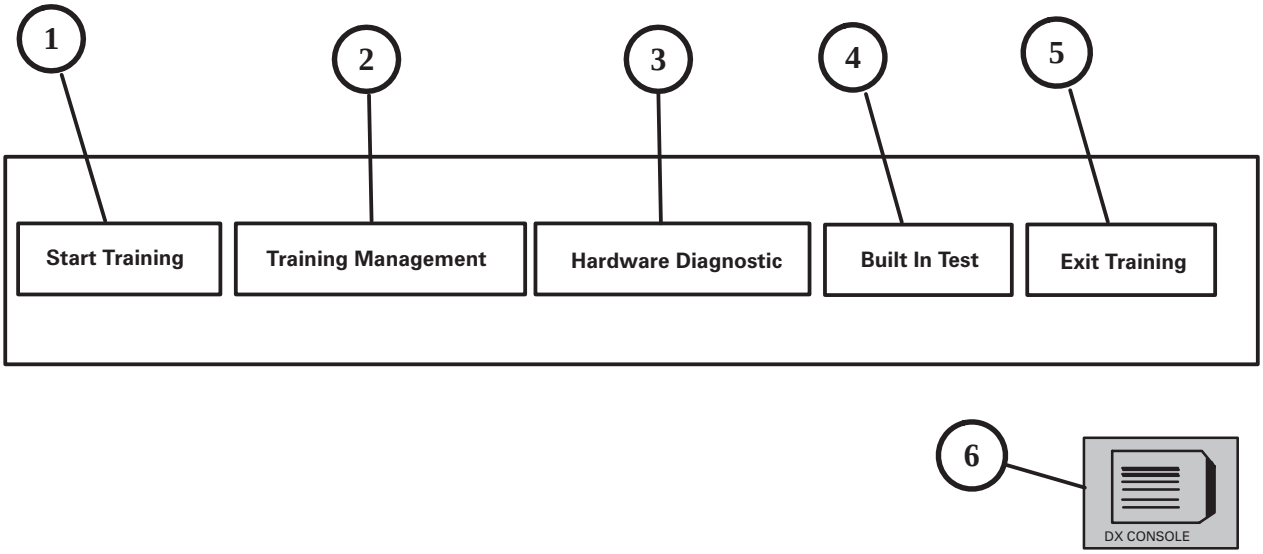


Figure 2–46. Platoon Mode IOS Mode Select Display

Key	Control or Indicator	Function
1	Start Training option	When selected, permits the I/O to initialize training mode.
2	Training Management option	When selected, permits the I/O to review, print, reposition crews in the training matrix or backup crew records.
3	Hardware Diagnostic option	When selected, permits the I/O to perform diagnostic procedures (see page 6–5).
4	Built In Test option	When selected, initializes system Build–In–Test (BIT).
5	Exit Training option	When selected, initializes system log–off process.
		NOTES The DX Console prompt appears on terminal screen when after log–in performed. DO NOT attempt to remove prompt.
6	DX Console prompt	Appears at the lower right portion of the terminal screen. Not required for AGTS operation.
7	Mode Select border	While conducting training if the Graphic Users Interface screen(s) locks up, place the mouse cursor on the border of the “Mode Select” display. Then, press and hold down the right mouse button. With the right mouse button still depressed, move the mouse cursor over the “Close” option on the Pop–up window and release the right mouse button.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.47 PLATOON MODE IMAGE GENERATOR (IG) LOAD DISPLAY PAGE

Platoon Mode Image Generator Load display page permits the Instructor/Operator to observe loading of the image generator database. During database loading, display indicates 5% increments load processes. If loading process stops before a 100% load is obtained, a possible error exists (see page 6–5) for Diagnostic Procedure.

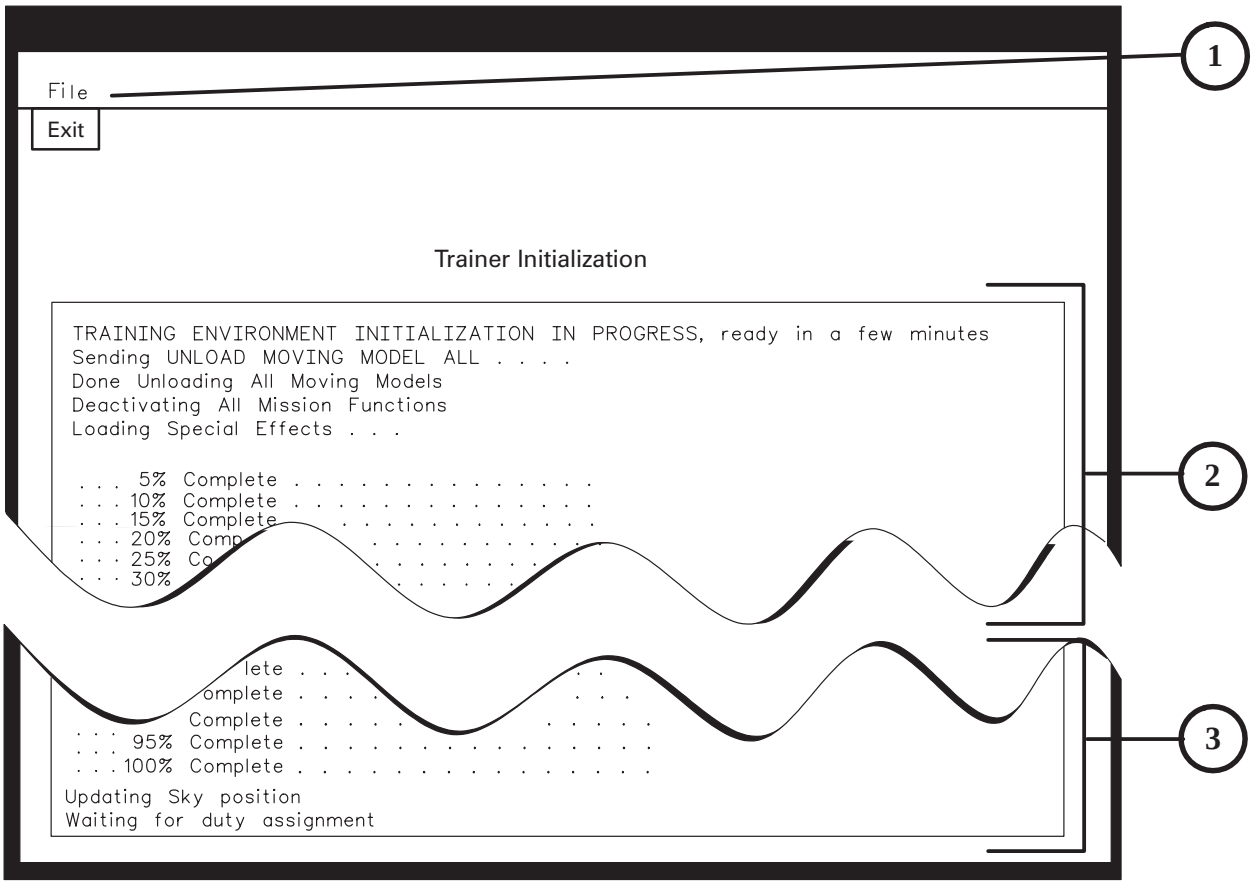


Figure 2–47. Platoon Mode Image Generator (IG) Display Page

Key	Control or Indicator	Function
1	File prompt	When “File” prompt is selected, “Exit” options appears. When the I/O selects “Exit” option, Initialization display page is replaced by the Mode Select display.
2	Image Generator (IG) loading data	Data continues to load at 5% increments until database load is 100%. When load is complete, Initialization Display page (see page 2–98) appears on terminal screen. If database fails to load, I/O selects “Exit” prompt shown at top left of Initialization page. Next select “Start Training” from Mode Select display. If load fails a second time, perform system Diagnostic Procedures (see page 6–5).
3	Updating Sky position prompt Waiting for duty assignment	Prompt appears after database load process is complete at the Platoon Sergeant, Wingman 1, and Wingman 2 Instructor/Operator Station.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.48 PLATOON MODE CONFIGURE SELECTION DISPLAY PAGE

Platoon Mode Configure Selection Display Page appears at platoon leader terminal screen immediately after "Start Training" option has been selected from the Mode Select display page and Image Generator Load processes have been completed. The configure display page permits the Instructor/Operator to assign crew station and duty positions to platoon members.

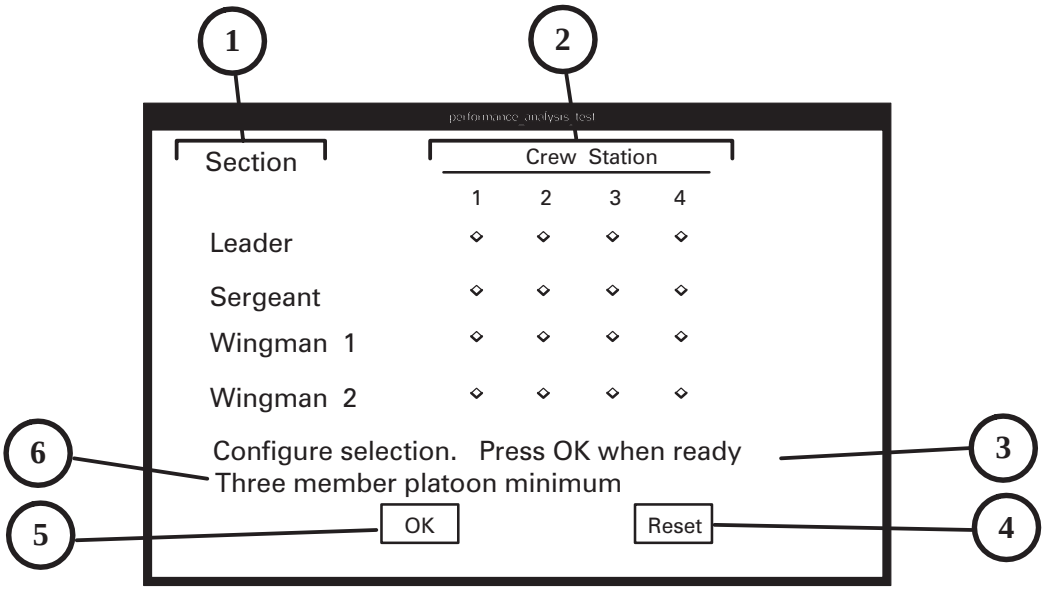


Figure 2–48. Platoon Mode Configure Selection Display Page

Key	Control or Indicator	Function
1	Section column	Provides duty positions list for platoon:
	Leader	Platoon Leader, in charge of Tank Platoon.
	Sergeant	Platoon Sergeant, second in charge of Tank Platoon.
	Wingman 1	Wingman 1, Platoon Leader wingman.
	Wingman 2	Wingman 2, Platoon Sergeant wingman.
2	Crew Station 1, 2, 3, or 4 pushbuttons	Platoon leader configuration button is automatically highlighted depending on the crew station that the leader is logged–in. The platoon leader must select the crew station and duty position for remaining platoon members.
3	Configure selection, Press OK when ready prompt	Request for the I/O to select "OK" when all crewstation and duty positions have been assigned.
4	Reset option	When selected, cancels selected options.
5	OK option	When selected, accepts selected options.
6	Three member platoon minimum	Indicates that a three tank platoon is the minimum number of vehicles allowed as a tank platoon.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.49 PLATOON MODE VEHICLE VERIFICATION DISPLAY PAGE

Platoon Mode Vehicle Verification display page appears on platoon leader's terminal screen after the platoon leader's Instructor/Operator Station has selected "OK" option from Platoon Mode Configure Selection display page (see page 2–94). Display page indicates the number of vehicles that have been selected for upcoming training and permits the I/O to "Accept" or "Redo" this number.

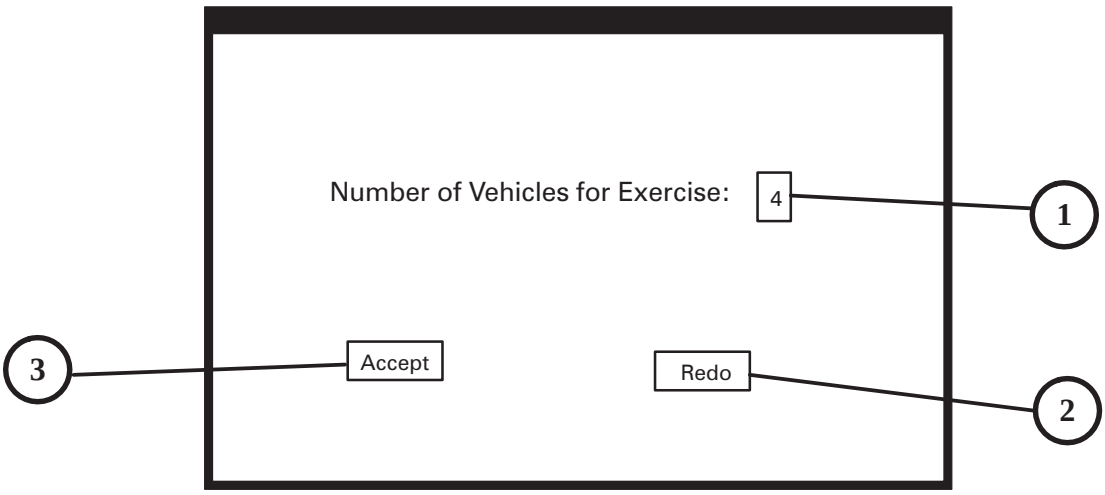


Figure 2–49. Platoon Mode Vehicle Verification Display Page

Key	Control or Indicator	Function
1	Number of Vehicles for Exercise [4]	Indicates number of vehicles assigned for next training session.
2	Redo option	When selected, Platoon Mode Configure Selection display page (see page 2–94) appears on terminal screen.
3	Accept option	When selected, Platoon Mode Section Creation Status display page (see page 2–97) appears on terminal screen.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.50 PLATOON MODE DESIGNATION DISPLAY PAGE

Platoon Mode Designation display page appears on IOS terminal screen when the platoon leader has assigned crew station(s) and duty position for member(s) of the platoon from the “Configure Selection Display Page” (see page 2–94). This display is displayed at each crew member’s IOS to inform the I/O of duty assignment for training.

Figure 2–50. Platoon Mode Designation Display Page

Key	Control or Indicator	Function
1	The Platoon Leader has designated you as SERGEANT at CREWSTATION_2 prompt	The designation options are: SERGEANT, WINGMAN 1, WINGMAN 2 at CREWSTATION 1, 2, 3, or 4.
2	OK prompt	Informs I/O of crew station duty assignment.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.51 PLATOON MODE SECTION CREATION STATUS DISPLAY PAGE

Platoon Mode Section Creation Status display page appears on platoon leader's terminal screen in response(s) to Platoon Mode Configure Selection display page (see page 2–94). This display page appears briefly on platoon leader's terminal screen if all crew stations from the Configure Selection display page (see page 2–94) are logged–in, and assigned a duty position. If one or more crew station(s) are not logged–in, display remains displayed until crew all station(s) log–in. If all vehicles fail to log–in, the I/O must exit training and reinitialized training from the Mode Select display.

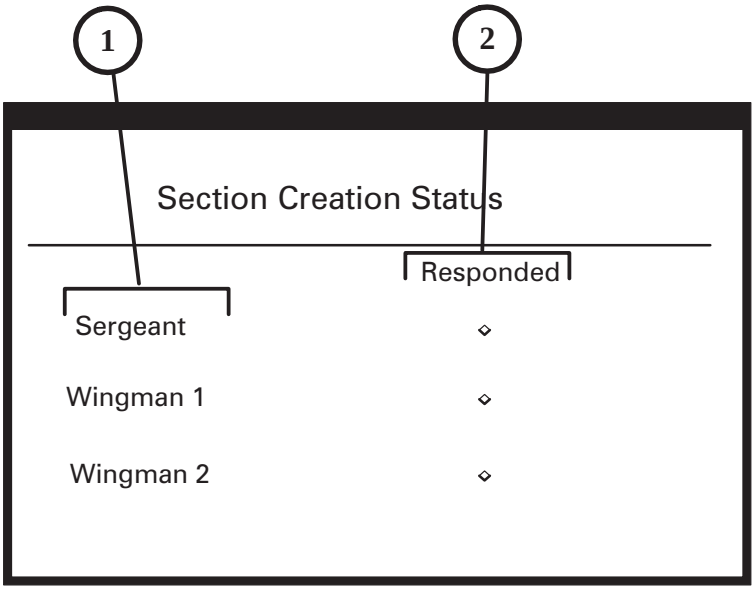


Figure 2–51. Platoon Mode Section Creation Status Display Page

Key	Control or Indicator	Function
1	Sergeant, Wingman 1, and Wingman 2 column	List of crew member(s) available for upcoming training session.
2	Responded column	Indicates crew station(s) that have responded for next training session.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.52 PLATOON MODE INITIALIZATION DISPLAY PAGE

Platoon Mode Initialization display page appears when “Start Training” options have been selected from the Mode Select page. The Initialization page provides information such as: name of platoon(s) to be trained, instructor’s name, selection of exercise(s) to be fired. To begin initialization process, enter vehicle name in “Vehicle Name” field.

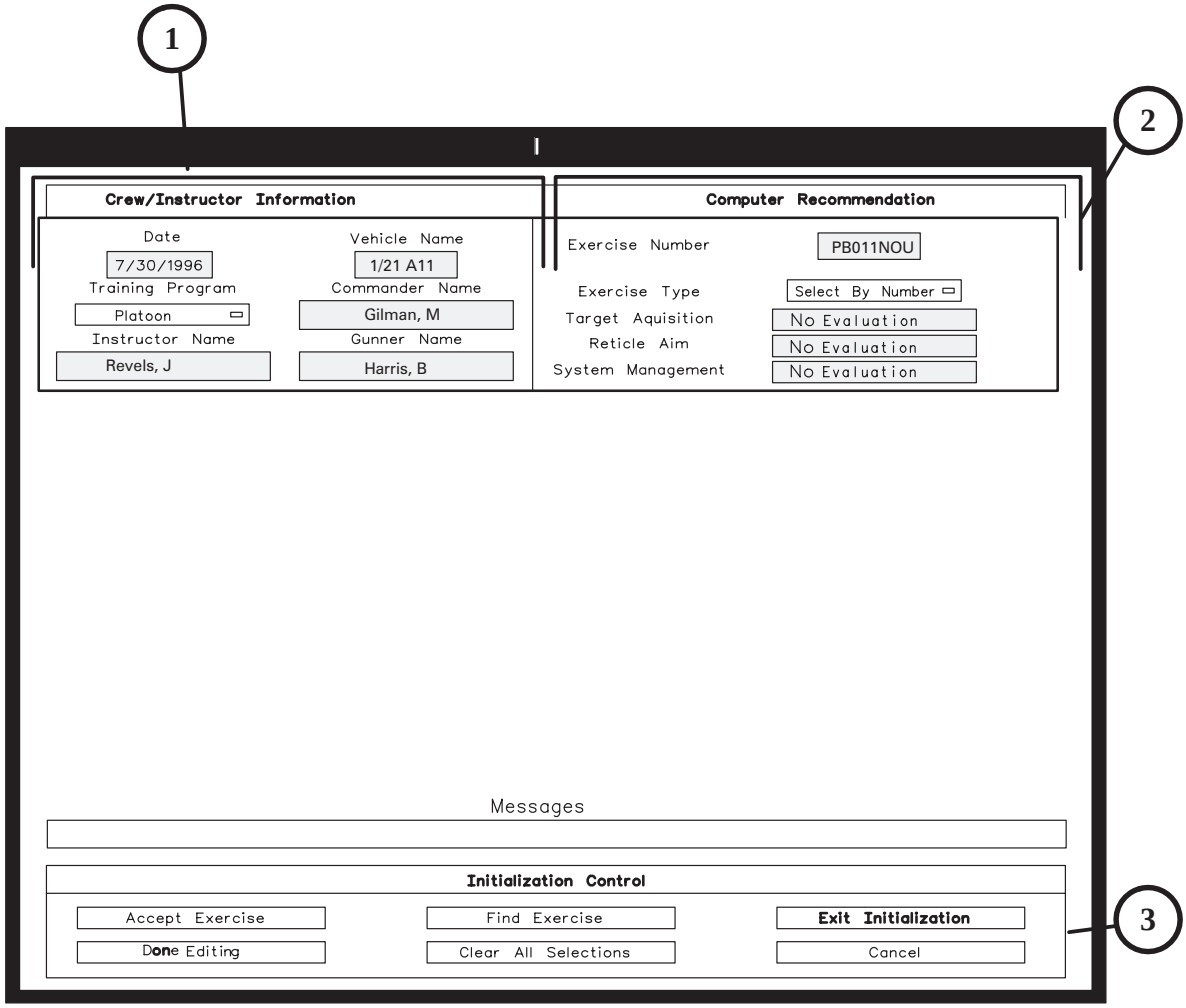


Figure 2–52. Platoon Mode Initialization Display Page

Key	Control or Indicator	Function
1	Crew/Instructor Information	This portion of the Initialization display page permits the I/O to view/enter: Date (automatically entered by the computer), Vehicle Name, Training Program (automatically selected by the computer), Commander’s Name, Gunner’s Name and Instructor Name.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
		To initialize crew training, enter a Vehicle Name in the "Vehicle Name" field (i. e., 1/21 A11). When an exercise is selected with a Vehicle Name, a permanent record is store on a training disk. The AGTS can be used for demonstration purposes without creating a permanent record. To do this, a vehicle name of "xxx" is entered in the "Vehicle Name" field. This entry, which is sometimes called "rapid log–in", creates a temporary record that is deleted upon termination of training. **NOTE** The crews are prompted to "Enter crew information for the Gunner, Commander, Instructor" during platoon mode, when the leader enters the vehicle name in the "Vehicle Name" field and press return key.
2	Computer Recommendation	This portion of the Initialization page permits the operator to enter: Exercise Number, Exercise Type "Select By Number" (automatically selected). Target grades are not evaluated during platoon exercise(s). During platoon training, "No Evaluation" will display in Target Acquisition, Reticle Aim and System Management fields.
3	Initialization Control	This portion of the Initialization display page permits the I/O to: Accept Exercise, Find Exercise, Exit Initialization, Cancel (any option selected above), Clear All Selections, Done Editing (only if a vehicle name has been entered in the "Vehicle ID" field).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.53 PLATOON MODE INSTRUCTIONS DISPLAY PAGE

Platoon Mode Instructions display page appears on the terminal screen after an platoon exercise has been selected by the I/O and all crew station switches have been set to their correct positions. At the Platoon Leader's IOS, this page provides an "Exercise Scope" to the instructor/operator to aid in exercise selection/rejection. Once exercise has been selected, an "Instructions" page appears on all crewstation IOS's terminal screens. The I/O reads the instructions to the crew prior to firing the exercise. If the Pre–Briefing/After Action Reviewer (PAAR) station is not powered up properly, a prompt will appear at this point informing the operator that the PAAR station is not on–line. Before training can continue, the PAAR station must be powered up properly.

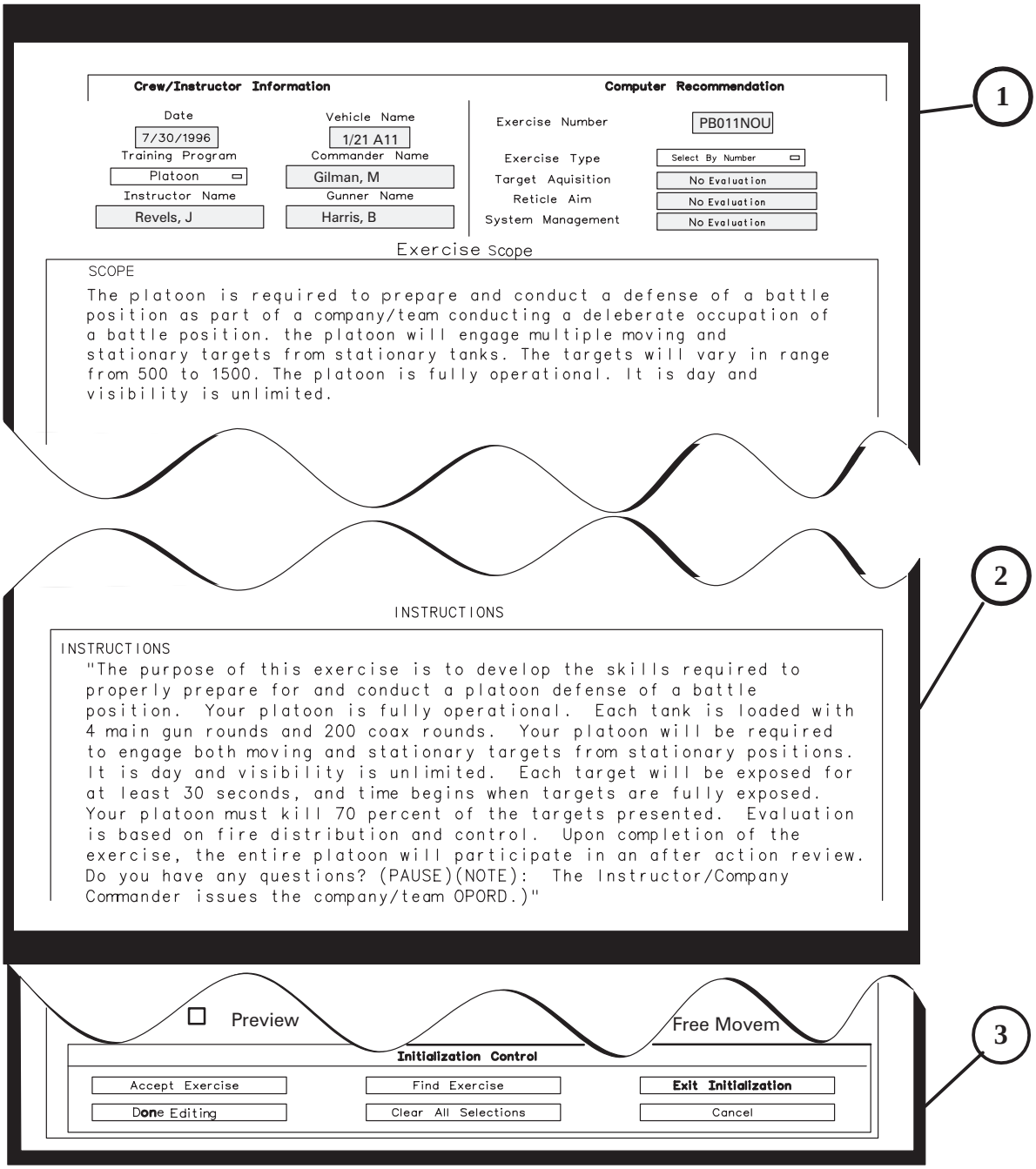


Figure 2–53. Platoon Mode Instructions Display Page

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Exercise Scope	Provides a brief description of the exercise for the Instructor/Operator. Based on this information, the I/O will accept/reject the exercise.
2	INSTRUCTIONS field	Provides a description of the exercise to be read to the crew by the I/O.
3	Initialization Control options	"Accept Exercise" option is selected if the I/O wants to load and run the exercise. "Find Exercise" option is not available in platoon mode. "Exit Initialization" option is selected if the I/O desires to terminate initialization process. "Done Editing" option permits the I/O to edit crew data prior to exercise selection. Once exercise has been selected and fired, this option will not be available. "Clear All Selection" is selected if the I/O desires to cancel all data entered prior to Accepting an exercise. When an exercise has been accepted by the I/O, "Clear All Selections" option changes to "Start Exercise" after all switch settings are corrected. "Cancel" option permits the I/O to cancel selected exercise.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.54 PLATOON MODE SITUATION MONITOR DISPLAY PAGE

Platoon Mode Situation Monitor display page appears on terminal screen when freeze/unfreeze key is pressed. This display page permits the I/O to observe the performance of crew members in the crew station during training. If allowed to run to completion, status field changes to "Exercise Complete." When options are active the icon is highlighted on Graphic Users Interface Electronic keypad.

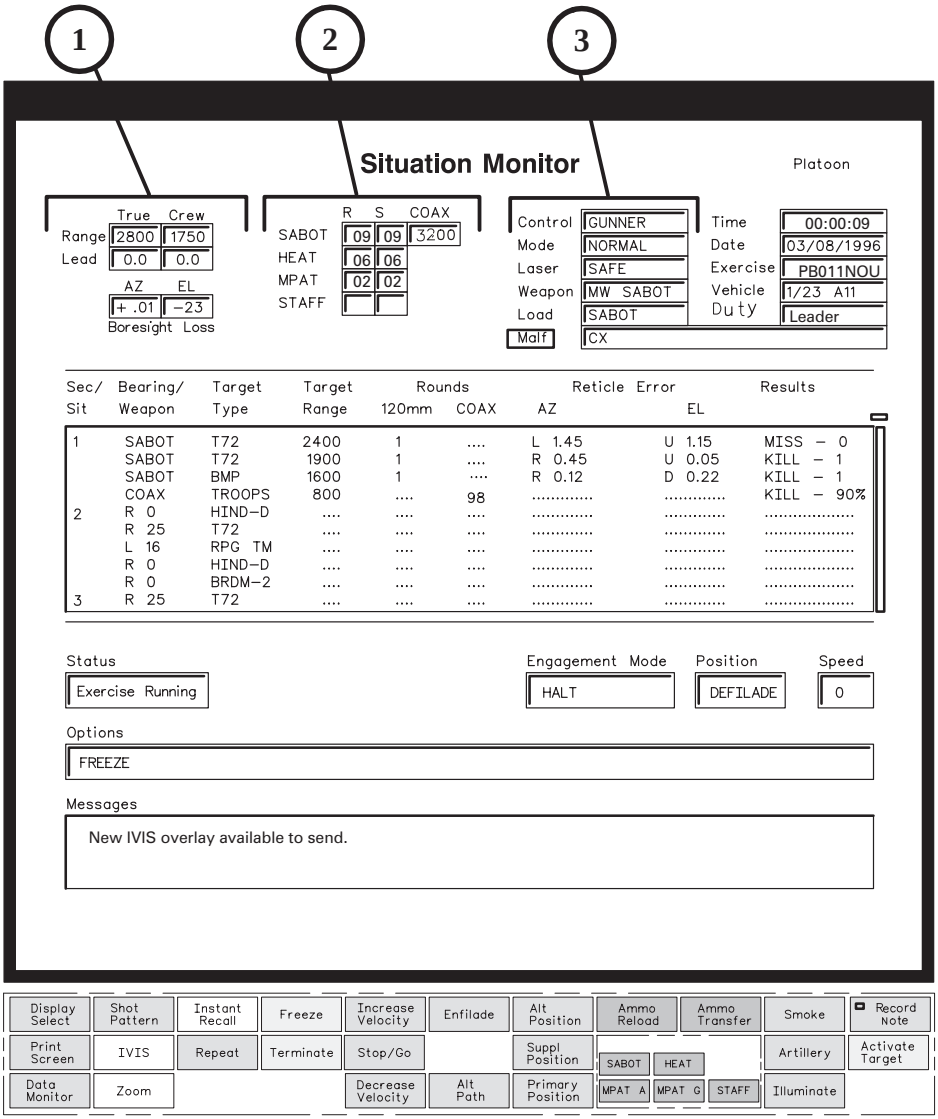


Figure 2–54. Platoon Mode Situation Monitor Display Page

Key	Control or Indicator	Function
1	Range, Lead, Boresight Loss	Provides the I/O with the True Range and Lead as opposed to the Crew Range and Lead. Boresight Loss status is provided for the I/O (Crew should update MRS once during the exercise, prior to firing more than 6 to 10 rounds).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
2	SABOT, HEAT, MPAT, STAFF	R indicates the number of rounds available in the tank's ready rack. S indicates the number of rounds available in the tank's semi–ready rack. COAX indicates the number of coax rounds available in the tank's ready rack.
3	Control, Mode, Laser, Weapon, Load, Malf	List of crew station switch settings, status of crew station components, and a list of crew station malfunctions. a. Control = Indicates whether turret is controlled by GUNNER, COMMANDER, or neither. (Dependent upon activation of palm switches.) b. Mode = Fire Control Mode is NORMAL, MANUAL or EMERGENCY. (Dependent upon position of fire control mode switch in crew station.) c. Laser = FIRST RTN, LAST RTN, or SAFE. (Dependent upon position of laser range switch.) d. Weapon = Main weapon, Coax machine gun and type of ammunition selected or Gun Select position (SAFE, COAX, MW–SABOT, MPAT, or MW–HEAT). e. Load = Ammo type selected by crew and loaded by I/O entry on keypad (EMPTY, SABOT, MPAT or HEAT). f. Malf = Crew station components malfunctions. (LR=Laser Range Finder failure, ST=Stabilization failure, GS=Gunner's primary sight/extension failure, BC=Ballistic computer failure, GP=Gunner's control handle failure, CX=Coaxial machinegun failure, LS=Lead sensor failure, CS=Cant sensor failure, WS=Crosswind sensor failure, NB=Nuclear biological conditions, CV=CITV failure, SB=Loss of GPS symbology, MG=Main gun misfire, BS=Main weapon firing boresight loss, MP=Master Power, HY=Hydraulic failure, CH=Commander's control handle failure, MT=Manual elevation handle trigger malfunction, TS=Thermal imaging sight (TIS) failure, PT=Power triggers failure, TP= Force OV Kill). The I/O can select the "Malf" icon to view malfunction abbreviation meanings.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.54.1 PLATOON MODE SITUATION MONITOR DISPLAY PAGE (CONTINUED)

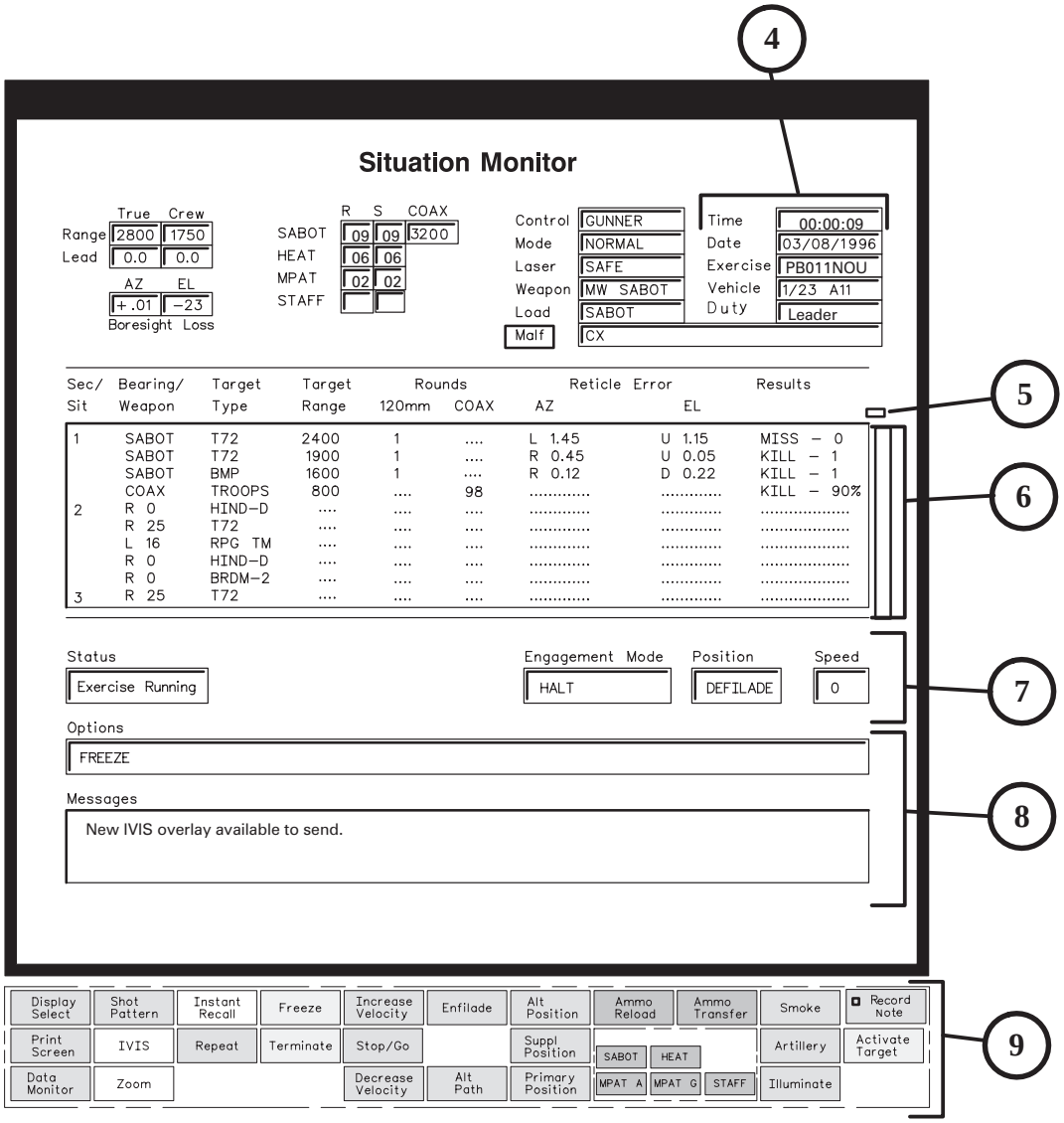


Figure 2–54. Platoon Mode Situation Monitor Display Page (Continued)

Key	Control or Indicator	Function
4	Time Date Exercise Vehicle Duty	Provides training Time, Date, Exercise number, Vehicle number, and Duty field identifies vehicle assignment.
5	Scroll lock/unlock button	When selected, permits the I/O to view data in dialog box.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
6	Exercise data fields	The following fields contain exercise information:
	Sec–Sit (seconds and situation number)	Indicates situations number.
	Bearing–Weapon	When the exercise begins, the bearing for the target in the first situation is shown in degrees to the right (R) or left (L) of the location of the Main Gun. After each target is fired upon, the bearing is replaced type weapon or main gun ammo selected for use by the crew.
	Target Type	Target Types include M1A1; BTR70; M1A2; MERKAVA; M2A3A3; CHIEFTAIN; CHALLENGER; AGS; M113; T72; BMP; TRUCK; ZSU–23–4; BTR–60; BRDM–2; M1–8C; TGT BOARD; TROOPS; M1; M2/3; T80; M60A3; AH64; HIND–D; RPG TM; AT–5; ATGM; AMX–10; AMX–30; BORESIGHT PANEL; LEO1; LEO2; ST4 PANEL; and MARDER. When a target becomes active, the target type is made brighter and will return to normal when deactivated.
	Target Range	Provides I/O with range to targets in situations.
	Rounds – 120mm/COAX	Indicates number of maingun and/or coax rounds fired during situation.
	Reticle Error	AZ = L (left), R(right) and amount of error in mils. EL = U (up), D(down) and amount of error in mils.
	Results	Provides general results of the situation as HIT; MISS; NE; MOB or KILL for all exercises other than acquisition and manipulation. A dash, following by a dash number, in this column indicates the number of hits, or for an area target, the percentage of shots fired that hit the target. The letter “F” to the right of this column indicates a force missing be cause MRS update has not been performed. The letter “C” to the right of this column indicates an object was hit in the target area, other than a target.
7	Status	Provides exercise information indicating running or “Running or Frozen”.
	Engagement Mode	Indicates ownvehicle: Moving or Halt.
	Position	Indicates ownvehicle: Defilade or Enfilade.
	Speed	Indicates vehicle speed in MPH. Negative reading is displayed when ownvehicle in reverse.
8	Options	Provides exercise information indicating options available to the I/O or provides the I/O with exercise information.
	Message	Displays exercise status conditions,
9	Graphic Users Interface Electronic Keyboard	See page 2–46.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.55 PLATOON MODE PERFORMANCE ANALYSIS DISPLAY PAGE

Platoon Mode Performance Analysis display page appears on the terminal screen when an exercise is in freeze mode and Display Select key on terminal keyboard is pressed or Display Select icon is selected from the electronic keypad. This display provides a summary of each crew's performance for each situation, during the exercise, and provides aggregated score, deductions for firing on friendly targets and a Pass of Fail grade.

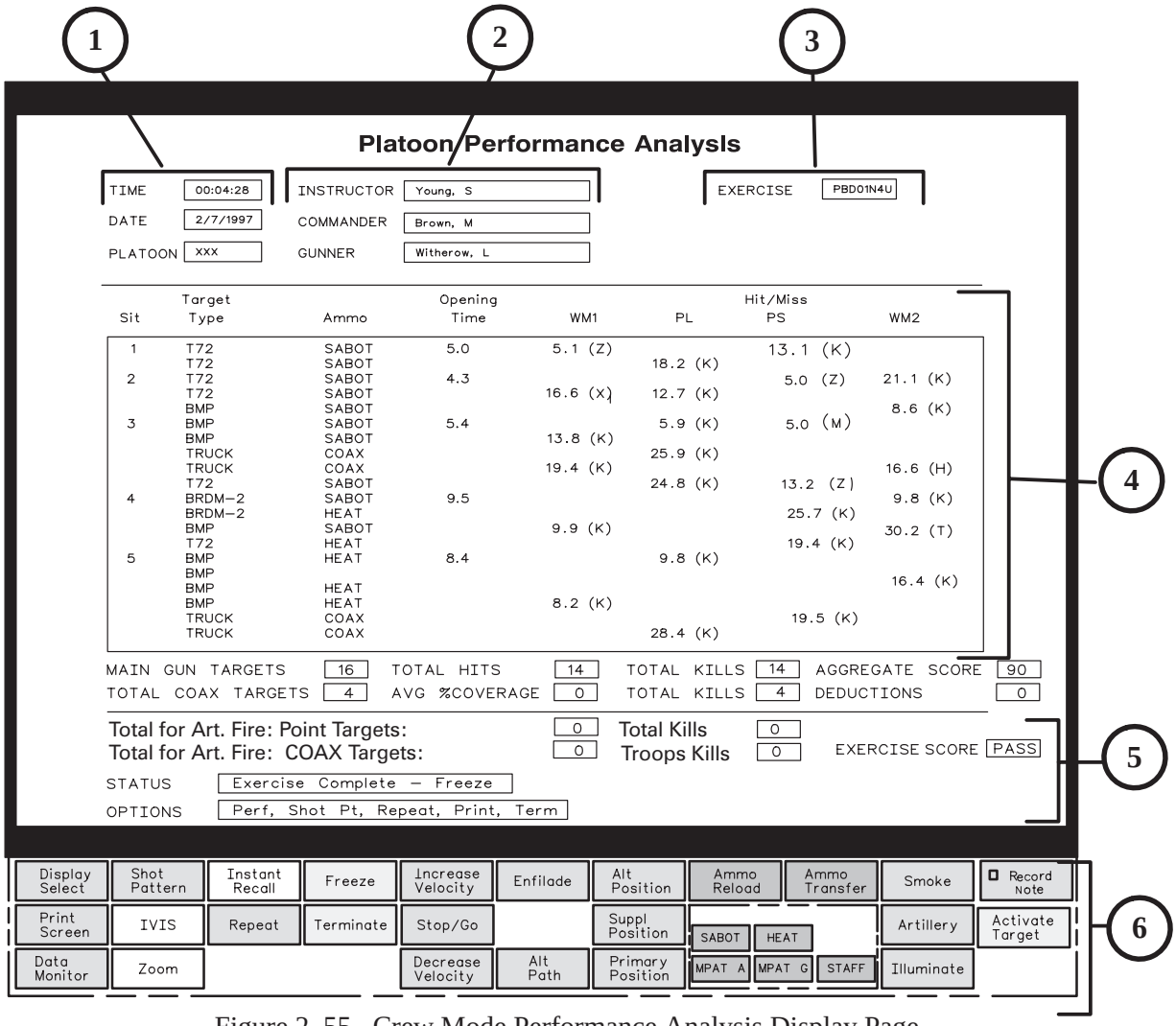


Figure 2–55. Crew Mode Performance Analysis Display Page

Key	Control or Indicator	Function
1	DATE, TIME, PLATOON fields	The date is automatically entered, time is updated continuously during the exercise, and platoon field displays the exercise number entered during platoon initialization (see page 2–98).
2	INSTRUCTOR, COMMANDER, GUNNER names	Name of training instructor. Name of commander and gunner trained.
3	EXERCISE number field	Number of exercise fired.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
4	Exercise data columns	First column ,“Sit” = indicates exercise situation number. Second column, “Target Type” = includes M1A1; BTR70; M1A2; MERKAVA; M2A3A3; CHIEFTAIN; CHALLENGER; AGS; M113; T72; BMP; TRUCK; ZSU–23–4; BTR–60; BRDM–2; M1–8C; TGT BOARD; TROOPS; M1; M2/3; T80; M60A3; AH64; HIND–D; RPG TM; AT–5; ATGM; AMX–10; AMX–30; BORESIGHT PANEL; LEO1; LEO2; ST4 PANEL; and MARDER. With target active, each target listed under “Target Type” column is brighter and will return to normal when deactivated. Third column, “Ammo” = Type of ammunition fired at the target. Fourth column, “Opening Time” = time of first main gun or coaxial ammunition fired in situation. Fifth column, “WM1” = Wingman 1; displays hit/kill time for Wingman 1. Sixth column, “PL” = Platoon Leader, displays hit/kill times for platoon leader. Seventh column, “PS” = Platoon Sergeant, displays hit/kill time for platoon sergeant. Eighth column, “WM2” = Wingman 2, displays hit/kill time for Wingman 2. Listed are symbols that will be displayed in conjunction with the WM1, PL, PS, and WM2 hit/kill column: X = fired on Non–Target; Z = target missed; T = Target killed after allotted time expired; K = killed target; M = target mobility killed; H= target hit during situation, F = fired on a friendly target and N = Non–Scoreable target (fire on with tacfire – not currently supported on the M1A2 SEP AGTS).
5	MAIN GUN TARGETS	Total main gun targets presented.
	TOTAL HITS	Total main gun targets hit.
	TOTAL KILLS	Total main target gun killed during exercise.
	AGGREGATE SCORE	Total main gun and coax targets killed divided by the number of main gun and coax targets presented, times 100.
	TOTAL COAX TARGETS	Total coax targets presented during exercise.
	AVG % COVERAGE	Average percentage coverage for each coax area target presented.
	TOTAL KILLS	Total coax point targets killed during exercise.
	DEDUCTIONS	A 5% deduction is subtracted from the total aggregated score each time a friendly target is fired at or killed during a situation. If each tank in the platoon engages and/or kills a friendly target, each tank crew will be accessed a 5% deduction for a total of a 20% deduction from the aggregated score.
	Total for Art. Points & Coax Targets	Total artillery mobility and catastrophic point target killed. Percent of coverage and/or total number of kills as a result of artillery fire. (Not currentlys supported on the M1A2 SEP AGTS)
	EXERCISE SCORE	Overall average score 0 through 69 = UNQUALIFIED, scores 70 through 79 = QUALIFIED, 80 trough 89 = SUPERIOR, and 90 through 100 = DISTINGUISHED
	STATUS Exercise Complete – Freeze	Indicates Exercise Running, Exercise Running – Freeze, and/or Exercise Complete – Freeze.
	Keypad Option	Options available when an exercise is running – Freeze to stop the exercise.
6	Graphic Users Interface Electronic keypad	(See Figure 2–27)

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.56 TRAINING MANAGEMENT SYSTEM (PLATOON RECORDS) DISPLAY PAGE

Training Management System (Platoon Record) display page provides a list of exercises previously fired by the Platoon. This display permits the I/O to view the platoons overall performance. Additionally, the I/O can print a copy of this record (see page 2–76). To select additional crew records from this display, refer to Training Management System (Crew Records List) display page (see page 2–72). The system stores 200 sets of crew records with 100 exercises for each crew..

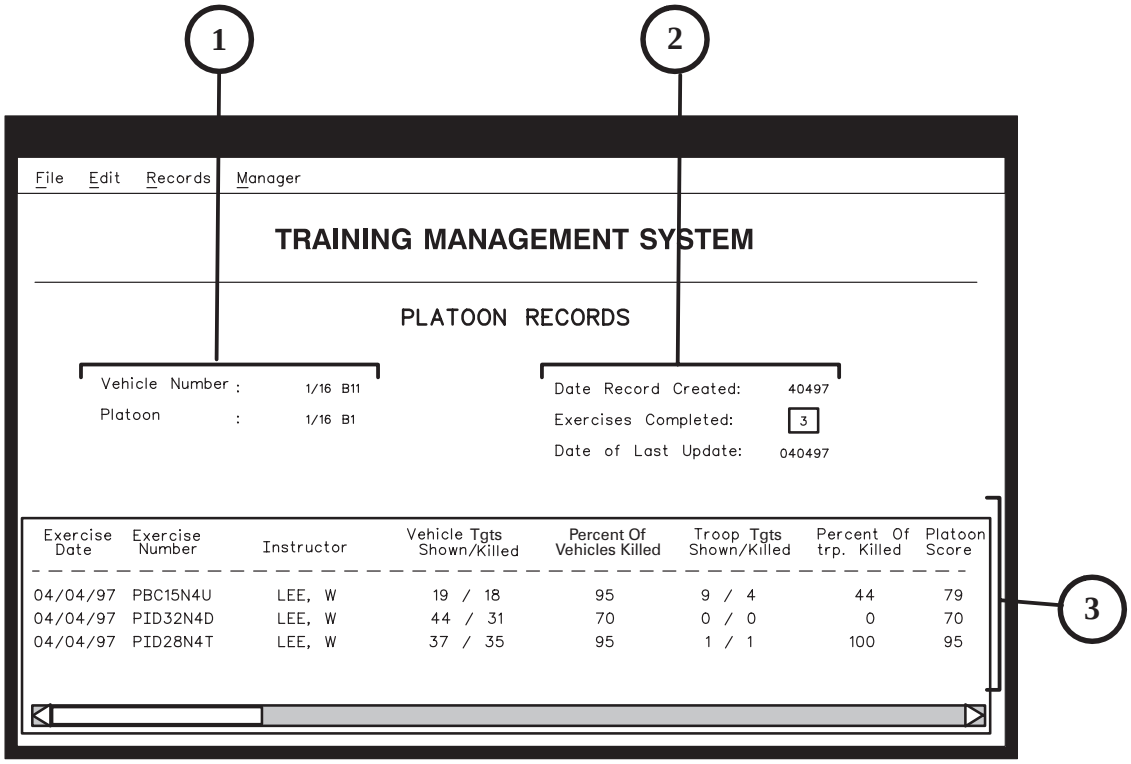


Figure 2–56. Training Management System (Platoon Records) Display Page

Key	Control or Indicator	Function
1	Vehicle Number:	Vehicle bumper number.
	Platoon:	Vehicle platoon number.
2	Date Record Created:	Date platoon exercise was fired.
	Exercise Completed:	Indicates the number of exercises fired.
	Date of Last Update:	Indicates the last date a platoon exercise was fired by this platoon.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	Crew data:	
	Date	Date exercise(s) fired.
	Exercise #	Identifies platoon exercise fired.
	Instructor Name	Lists the instructor's name for the exercise.
	Vehicle Target Shown/Killed	Lists the number of vehicle targets shown during the exercise, and the number of vehicle targets killed.
	Percent of Veh. Killed	Total number of vehicle targets killed, divided by the total number vehicle targets presented, multiplied by one hundred.
	Troop Targets Shown/Killed	Lists the number of troop targets shown during the exercise, and the number of troop targets killed.
	Percent of Platoon trp. Killed	Total number of troop targets killed, divided by the total number of troop targets presented, multiplied by one hundred.
	Platoon Score	Total number of vehicle and troop targets killed, divided by the total number of vehicle and troop targets presented, multiplied by one hundred.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.57 TRAINING MANAGEMENT SYSTEM (PLATOON CREW DATA) DISPLAY PAGE

Training Management System (Platoon Crew Data) display page provides previously fired Platoon Exercises information. This display permits the I/O to view the platoon crew data. Additionally, the I/O can print a copy of this record or print all crew data for a specific training session(see page 2–76).

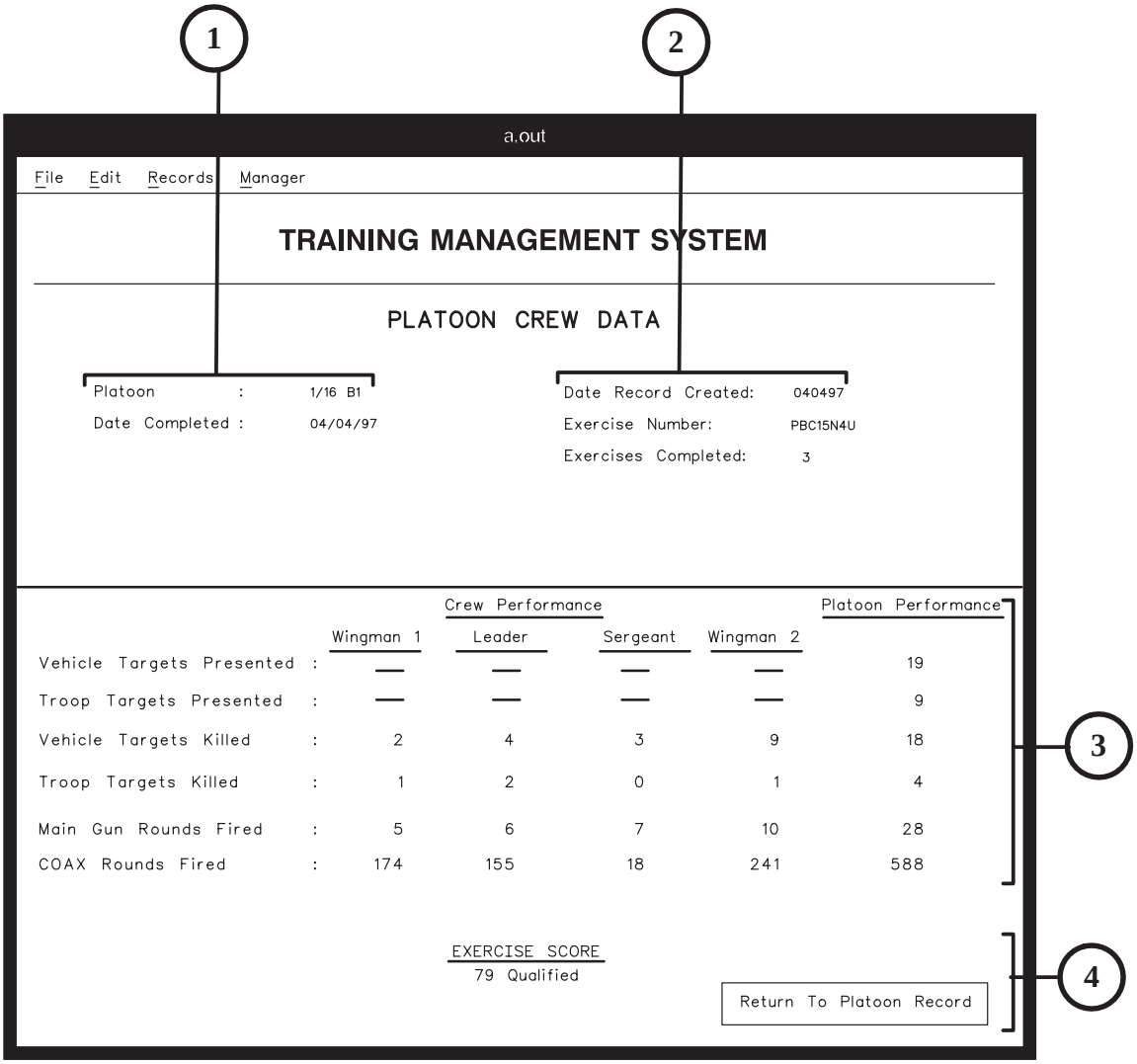


Figure 2–57. Training Management System (Platoon Crew Data) Display Page

Key	Control or Indicator	Function
1	Vehicle Number:	Vehicle Bumper number.
	Platoon:	Vehicle platoon number.
2	Date Record Created:	Date platoon exercise fired.
	Exercise Number:	Indicates current exercise number.
	Exercises Completed:	Indicates the total number of exercises fired.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
3	Crew Performance:	
	Vehicle Targets Presented	This row from left to right, indicates total vehicle targets presented, listed under the Platoon Performance column.
	Troop Targets Presented	This row from left to right, indicates a total of troop targets presented, listed under the Platoon Performance column.
	Vehicle Targets Killed	Total number of vehicle targets killed by each vehicle in the platoon (shown under Wingman 1, Leader, Sergeant, and Wingman 2). Also, the total number of vehicle targets killed by the platoon (shown under Platoon Performance column).
	Troop Targets Killed	Total number of troop targets killed by each vehicle in the platoon (shown under Wingman 1, Leader, Sergeant, and Wingman 2). Also, the total number of troop targets killed by the platoon (shown under Platoon Performance column).
	Main Gun Rounds Fired	Total number of main gun rounds fired by each vehicle in the platoon (shown under Wingman 1, Leader, Sergeant, and Wingman 2). Also, the total number of main gun rounds fired by the platoon (shown under Platoon Performance column).
	COAX Rounds Fired	Total number of COAX rounds fired by each vehicle in the platoon (shown under Wingman 1, Leader, Sergeant, and Wingman 2). Also, the total number of COAX rounds fired by the platoon (shown under Platoon Performance column).
	EXERCISE SCORE	Total number of vehicle and troop targets killed, divided by the total number of vehicle and troop targets presented, multiplied by one hundred.
	Return To Platoon Record	When selected, recalls Platoon Records display page (see page 2–108).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.58 PLATOON MODE IVIS STATUS DISPLAY PAGE

Inter–Vehicle Information System (IVIS) Status display page is presented to the I/O to determine if there are any Pregenerated Messages available to be to the crew.

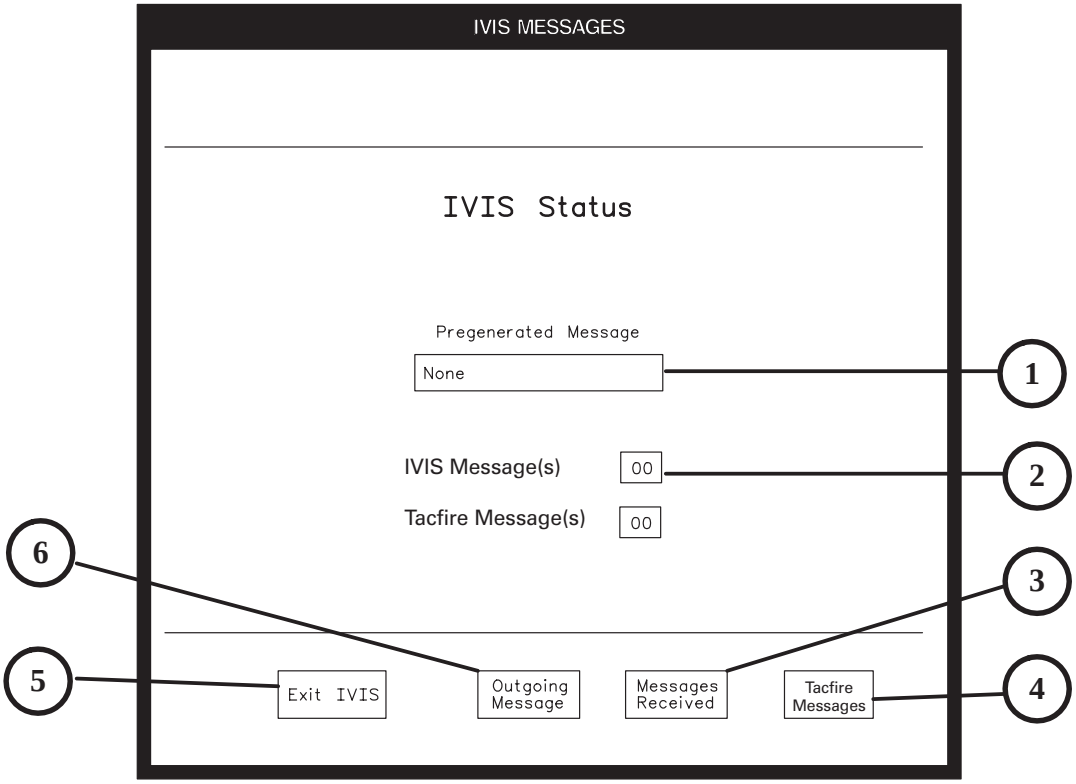


Figure 2–58. Platoon Mode IVIS Status Display Page

Key	Control or Indicator	Function
1	Pregenerated Message field	This field indicates the type of pregenerated message available to be sent.
2	Message(s) Received field	The number in this field indicates the number of message(s) available for review.
3	Messages Received button	Currently not available on the AGTS.
4	Tacfire Messages	Currently not available on the AGTS.
5	Exit IVIS button	Use left button of mouse to select “Exit IVIS” button to terminate IVIS Mode.
6	Outgoing Message button	Use left button of mouse to select this field to review Spot Report.

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.59 PLATOON MODE IVIS SPOT REPORT DISPLAY PAGE

Inter–Vehicle Information System (IVIS) Spot Report display page permits the I/O to review spot reports that can be read to the crew. This menu is only displayed if spot reports are available for review.

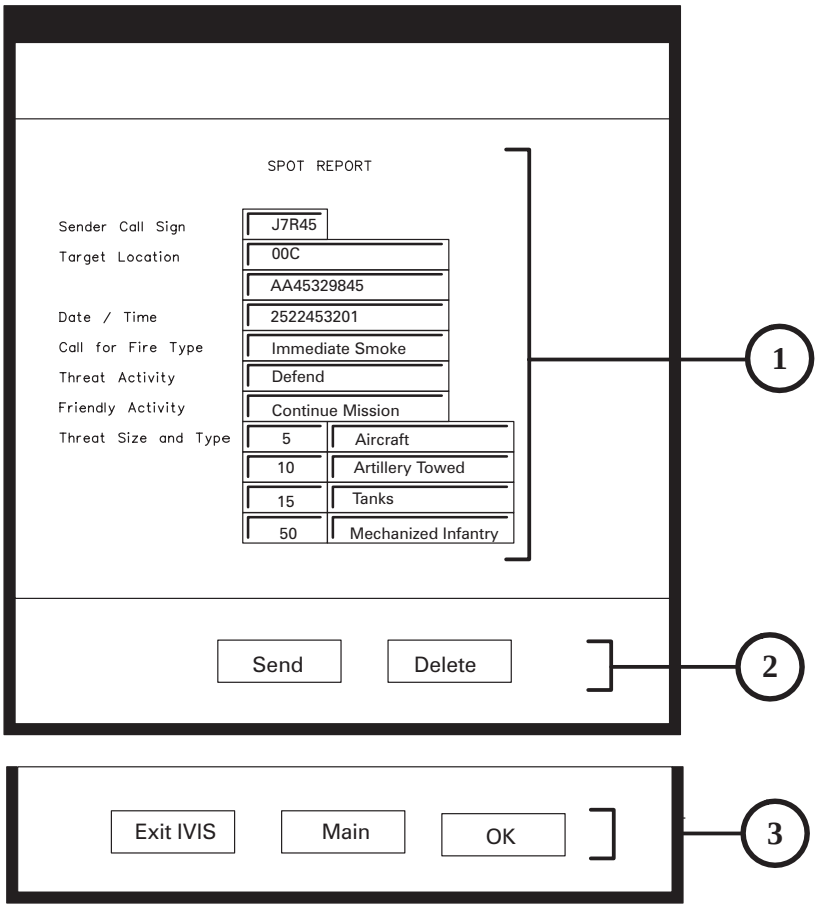


Figure 2–59. Platoon Mode IVIS Spot Report Display Page

Key	Control or Indicator	Function
1	Spot Report Data fields	This information describes enemy location, and friendly or enemy current status.
2	Send, Delete buttons	Use left button of mouse to select “Send” to send spot report message(s), or select “Delete” to delete message(s).
3	Exit IVIS, Send, Delete buttons	Use left button of mouse to select “Exit IVIS” to terminate IVIS mode: or select “Main” or “OK” button to return to IVIS Status display page (see page 2–112).

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.60 PLATOON MODE CREW DATA PRINTOUT

The Platoon Mode Crew Data Printout will print at the terminal printer when “Todays Platoon Records” is selected from the Training Management System display page (see page 2–76). This record can only be printed as shown below for the current day’s training session. All other record requests will print one platoon exercise per request.

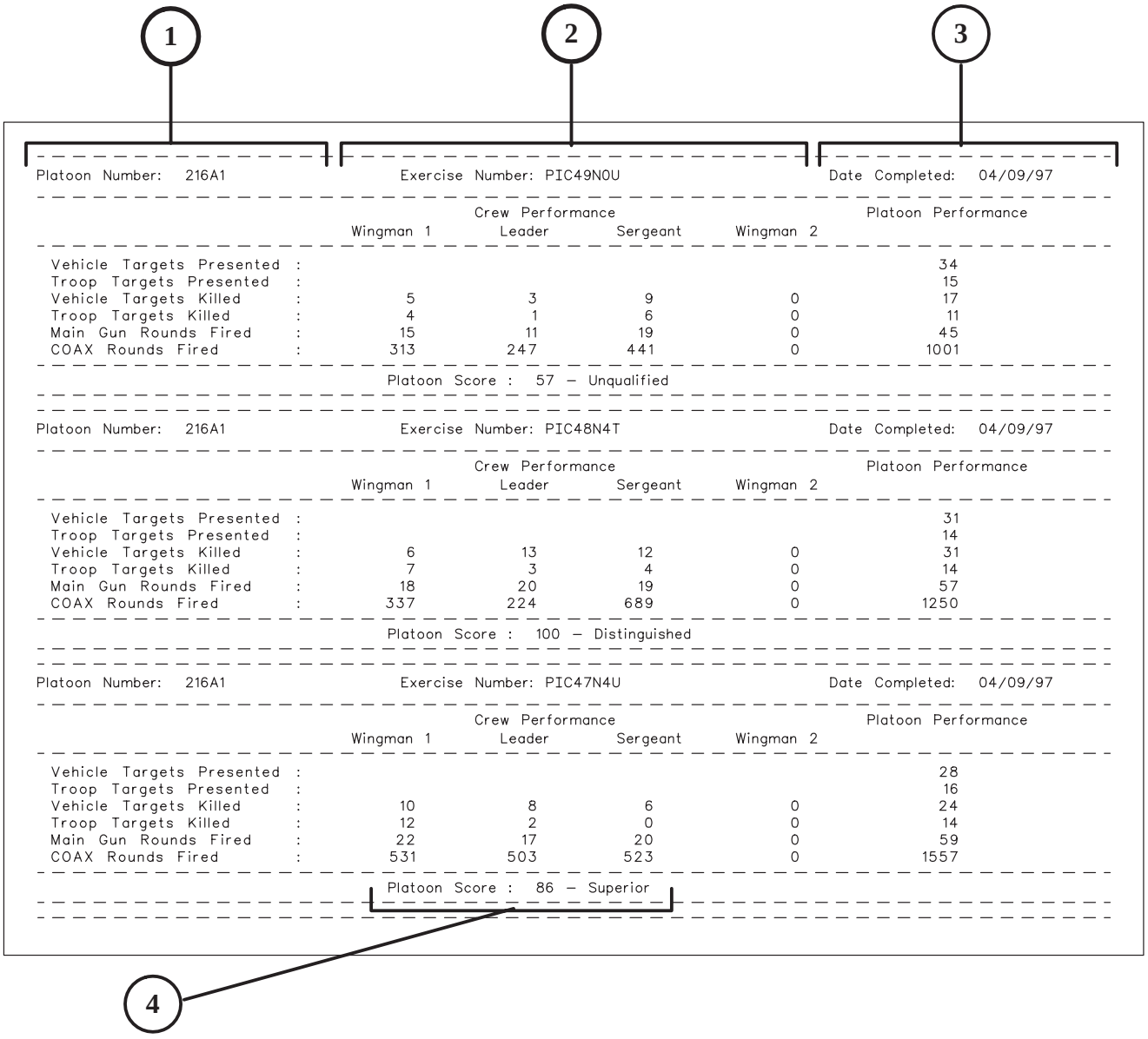


Figure 2–60. Platoon Mode Crew Data Printout

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Platoon Mode Crew Data Printout	Identifies data on the platoon summary.
	Platoon Number:	Vehicle bumper number.
	Vehicle Targets Presented	Indicates number of vehicle targets presented during the exercise, shown under Platoon Performance column.
	Troop Targets Presented	Indicates number of troop targets presented during the exercise, shown under Platoon Performance column.
	Vehicle Targets Killed	Indicates number of vehicle targets killed for each vehicle in the platoon and total kills for platoon, shown under Platoon Performance column.
	Troop Targets Killed	Indicates number of troop targets killed for each vehicle in the platoon and total kills for platoon, shown under Platoon Performance column.
	Main Gun Rounds Fired	Indicates number of main gun rounds fired for each vehicle in platoon and total rounds fired for the platoon, shown under Platoon Performance column.
	COAX Rounds Fired	Indicates number of COAX rounds fired for each vehicle in the platoon and total number rounds fired for the platoon, shown under Platoon Performance column.
2	Exercise Number	Current exercise number.
	Crew Performance for Wingman 1, Leader, Sergeant, or Wingman 2	Listed under each vehicle (wingman 1, leader, sergeant, and wingman2) are the total number of vehicle and troop targets presented, killed, main gun rounds fired and COAX rounds fired for each vehicle.
3	Date Completed	Date exercise fired.
	Platoon Performance	Listed are the total number of vehicle and troop targets presented, killed, main gun rounds fired and COAX rounds fired for the platoon.
4	Platoon Score:	Total number of vehicle and troop targets killed, divided by the total number of vehicle and troop targets presented, multiplied by one hundred. Distinguished > 90 Superior 89 to 80 Qualified 79 to 70 Disqualified < 69

DESCRIPTION AND USE OF CONTROLS AND INDICATORS

2.61 TRAINING MANAGEMENT SYSTEM (PLATOON RECORDS) DISPLAY PAGE

Training Management System (Platoon Record) display page provides a list of exercises previously fired by the Platoon. This display permits the I/O to view and/or print the platoon's overall performance. To select additional crew records from this display, refer to Training Management System (Crew Records List) display page (see page 2–72). The system stores 200 crew records with 100 exercise for each crew.

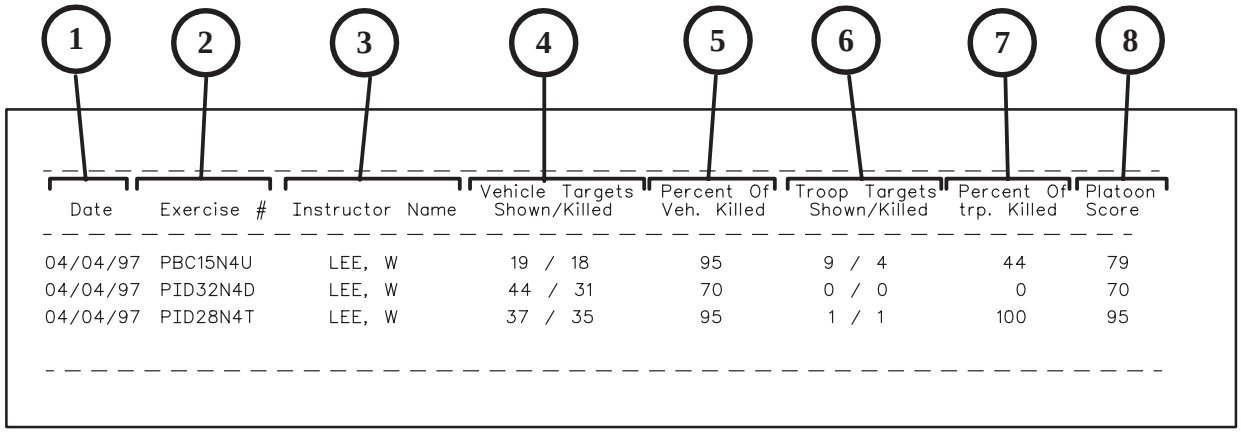


Figure 2–61. Training Management System (Platoon Records) Display Page

Key	Control or Indicator	Function
1	Date:	Date exercise was fired.
2	Exercise #	Exercise number fired during the training session.
3	Instructor Name	The instructor's name who conducted training session.
4	Vehicle Targets Shown/Killed	Lists number of target vehicles shown during the exercise, and the number of target vehicles killed.
5	Percent Of Veh. Killed	Total number of target vehicles killed divided by the total number of target vehicles presented, multiplied by one hundred.
6	Troop Targets Shown/Killed	Lists number of troop targets shown during the exercise and the number of troop targets shown that were killed.
7	Percent Of Platoon trp. Killed	Total number of troop targets killed divided by the total number of troop targets presented, multiplied by one hundred.
8	Platoon Score	Total number of vehicle and troop targets killed, divided by the total number of vehicle and troop targets presented, multiplied by one hundred.

CHAPTER 3
TRAINING SYSTEM PROCEDURES
Section I. Crew Training Program (CTP) and Crew Scoring Criteria

3.1 SCOPE

This chapter is broken down into two sections: Section I describes the Crew Training Program (CTP) and discuss crew mode scoring criteria. Section II describes the Platoon Training and discuss platoon mode scoring criteria.

3.2 GENERAL

The Instructor/Operator (I/O) has three major duties. The first is that of equipment operator requiring a thorough working knowledge of all controls, indicators, displays, instructional features, and procedures necessary for equipment operation. The second duty is to perform operator level hardware maintenance. Chapters 2 and 6 of this document are the I/O's primary source of information concerning technical operation of the Advanced Gunnery Training System (AGTS). The third duty is that of instructor.

As an instructor, the I/O must understand how to effectively use the AGTS for tank crew training. This requires the combination of knowledge of the AGTS, its instructional features, and knowledge of gunnery principles and techniques. Additionally, the I/O must apply this knowledge to training and critiquing the commander's and gunner's as a crew. The I/O must properly prepare the crew for each training session, conduct the training session, and critique the crew(s) results. It is the I/O's responsibility to ensure the crews receive the maximum benefit from the time they have spent on the AGTS.

3.3 AGTS CREW TRAINING PROGRAM

The crew training program consists of the Special Purpose, Basic Gunnery, Advanced Gunnery, and Sustainment exercises which are designed to train fully operational precision gunnery, battlesight gunnery using the primary and auxiliary sights and crew coordination supporting the execution of precision and battlesight gunnery tasks.

3.3.1 ADVANCE GUNNERY SKILLS

The Advanced Gunnery Skills level exercises are in three levels (Advanced Gunnery Skill I, II, and III), and are arranged so that both gunnery tasks and ownvehicle conditions become progressively more difficult as the crew advances. The three advanced skills levels are shown on page 3–2.

Each advanced skill level increases its level of difficulty by target sector, maximum range to targets and number of targets and/or timing of target presentation. In addition, target path increases in evasiveness as gunnery level increases. The exercises are evaluated in three gunnery skill areas: Target Acquisition, Reticle Aim, and System Management. The Advance Skill Levels are explained in Table 3–1.

Table 3–1. Advance Skill Levels

Attribute	Advanced Skill Level 1	Advanced Skill Level 2	Advanced Skill Level 3
Maximum Range	3000 meters	3500 meters	5000 meters *
Maximum Sector	45 degrees	65 degrees	90 degrees
Number of Targets	2 or 3	1 to 4	2 to 4
Presentation Timing	Simultaneous	5 Second delay between targets	2 Simultaneous, 5 to 12 second delay
Evasive Behaviors	Increase speed when fired upon	Changing direction at various points along pre-programmed path presenting frontal or oblique engagements	Varying in movement speed when fired upon, changing direction towards ownvehicle, moving in a zig–zag pattern, and/or moving diagonally across OV front
Hit on Ownvehicle	Causes no malfunctions	Causes one malfunction per exercise	Causes one malfunction per hit

* 10% of vehicle targets at 3500 to 5000 meters for moving OV exercises and 20% of vehicle targets at 3500 to 5000 meters for stationary OV exercises. No targets are set beyond 3500 meters when GAS or GPSE is the designated sight for that exercise.

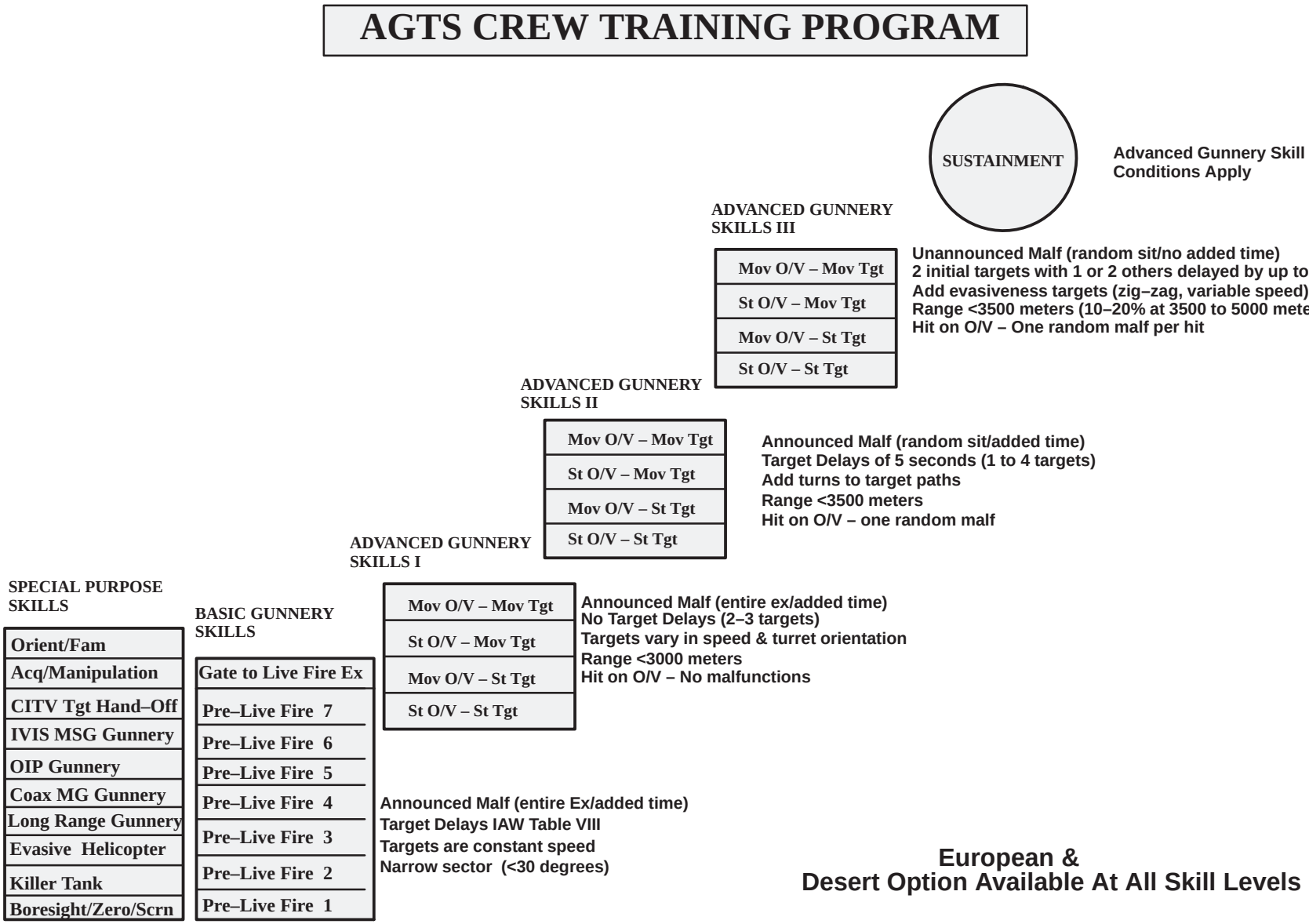


Figure 3–1. AGTS Crew Training Program

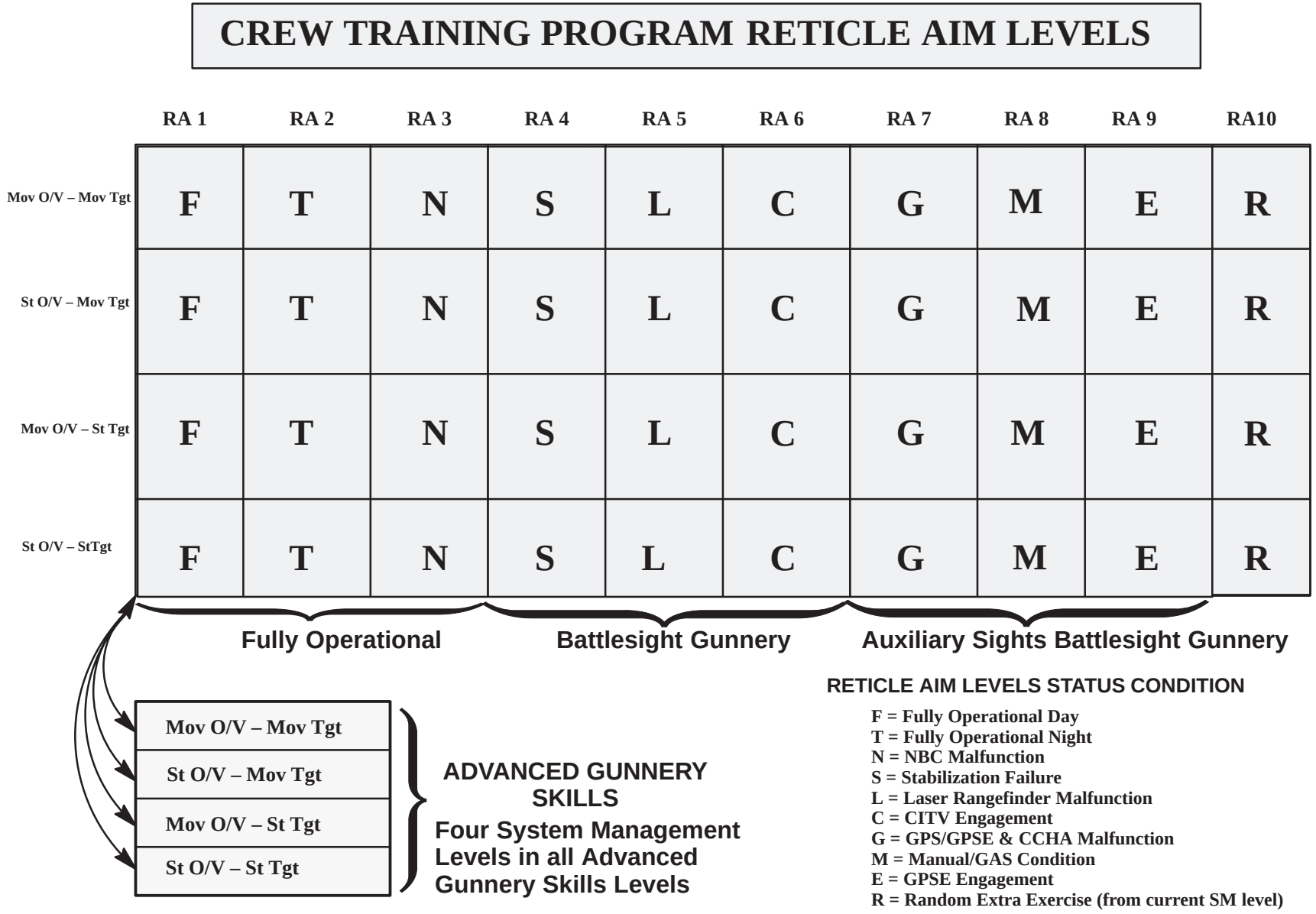


Figure 3–1. AGTS Crew Training Program (Continued)

3.4 CREW TRAINING PROGRAM (CTP) SCORING CRITERIA

Crew Training Program (CTP) gunnery training matrix exercises contain a minimum of 5, to a maximum of 10, independently scored situations involving similar tactical conditions. A situation can contain one to four targets which are activated simultaneously or with delays from 5 to 12 seconds, depending on the Advanced Gunnery Skills level. To increase exercise difficulty, exercises are fired from both stationary and moving ownvehicles, engaging stationary and moving targets multiple targets. Upon exercise completion, the grades for each skill areas (TA, RA, and SM) are averaged. The average score will determine the computer recommendation grade for a crew's progression through the CTP matrix.

3.5 TARGET ACQUISITION DIFFICULTY

Target Acquisition involves the skills required for the crew to accurately detect, identify, and classify targets. Each Advanced Gunnery Skills level increases target acquisition levels of difficulty by increasing the number of exercises with limited visibility and battlefield conditions as follows:

- During Advanced Gunnery Skills I exercises, the computer randomly selects visibility conditions as follows: Unlimited visibility 67%, limited visibility 33%. Additionally, the computer will induce battlefield conditions into 20% of the exercises.

- During Advanced Gunnery Skills II exercises, the computer randomly selects visibility conditions as follows: Unlimited visibility 50%, limited visibility 50%. Additionally, the computer will induce battlefield conditions into 40% of the exercises.

- During Advanced Gunnery Skills III exercises, the computer randomly selects visibility and weather conditions as follows: 50% unlimited visibility, 50% limited visibility. Additionally, the computer will induce battlefield conditions into 60% of the exercises.

3.5.1 TARGET ACQUISITION SCORING

Target Acquisition involves the skills required for the crew to accurately detect, identify and classify targets. Target Acquisition scores are based on the lowest score received by the crew in the following two groups:

- **Group 1: Target Acquisition Time**

  a. Defensive Situations – The Target Acquisition time begins when ownvehicle is in defilade position and targets fully exposed (target activation plus 3.5 seconds) and ends when ownvehicle reaches enfilade position. If ownvehicle is in enfilade position at activation time of the first target of any defensive situation, target acquisition time is based on the offensive scoring criteria. Defensive target acquisition times are evaluated as follows:

Acquisition Time	Evaluation	Grade
0–10 seconds	4	A
>10–20 seconds	3	B
>20–25 seconds	2	C
>25 seconds	1	F

b. Offensive Situations – Target Acquisition time begins when the first target in the situation is fully exposed, and ends when owntank fires first round/burst at last target of situation. Target Acquisition time will be one–half of the firing time, exception for friendly targets. Target acquisition time evaluation for offensive situations are based on the following criteria:

Number of Targets Per Situation					
1	2	3	4	**Evaluation**	**Grade**
0–5	0–10	0–15	0–20	4	A
>5–7.5	>10–12.5	>15–17.5	>20–22.5	3	B
>7.5–10	>12.5–15	>17.5–20	>22.5–15	2	C
>10	>15	>20	>25	1	F

- **Group 2: Classification and Identification Errors**

The Target Acquisition Classification and Identification Errors grades are based on the total number of target identification and classification errors in each situation. Target Identification error will be accessed to the crew if:

a. Firing occurs at a non–target, one error will be scored if any round(s) is fired with the reticle on a non–target. Non–targets are defined as an aiming points greater than 20 mils from the center of mass of a point target or greater than 100 mils from the center of mass of an area target. The target acquisition non–target error symbol will print on the crew's records is an "I".

b. Two errors will be scored if no round is fired between the time of target activation and deactivation. No error will be scored if the target is a friendly target and the friendly target is not fired on. The target acquisition non–target error symbol that will be printed on the crew's record is a "2I".

c. One classification and one identification error will be scored if a round is fired at a friendly target. Firing at a friendly target is defined as a reticle aiming point less than or equal to 20 mils from the center of mass. The target acquisition firing on friendly target error symbol is a "2F." Target acquisition time with friendly targets will be evaluated as a "B", providing the target is not fired on.

d. One classification error will be scored if each target fired upon does not constitute the highest threat value, per the published lethality criteria shown in table Table 3–2. Target lethality will be calculated for all targets which activate simultaneously (within the first 3.5 seconds) of a situation.

At time of first target kill and a time of any subsequent target kill, lethality will be re–calculated among the remaining active targets including any delayed targets that have activated during the time required to kill.

Classification errors will be scored for each target engaged between target kills.

Target Acquisition Identification/Classification errors are indicated by the symbol "C" and acquisition scoring is based on the following:

Combined ID/Classification Errors	**Evaluation**	**Grade**
0	4	A
1 of either	2	C
1 of both	1	F
>1 of either or both	1	F

Table 3–2. Target Lethality

Lethality Level	Target Type	Range	Orientation	Motion
3	All Tanks	<2400	front	Either
3	HIND–D	any	front	Either
3	BMP–2	<2400	front	Stationary
3	BRDM2	<2400	front	Stationary
3	ATGM (AT–4)	<2400	front	Stationary only
3	Truck w/Snapper	<2400	rear	Stationary
3	BRDM–2LWR	<2400	front	Stationary
3	All Tanks	<2400	flank–rear	Either
3	BMP–2	<2400	flank, rear	Stationary
3	BRDM2	<2400	flank, rear	Stationary
3	MI–8T/HIP C	<2400	front	Either
2	All Tanks	>2400	front	Either
2	BMP–2	>2400	front	Stationary
2	BRDM–2	>2400	front	Stationary
2	ATGM (AT–4)	>2400	front	Stationary
2	Truck w/Snapper	>2400	rear	Stationary
2	BRDM–2LWR	>2400	front	Stationary
2	All Tanks	>2400	flank–rear	Either
2	HIND–D	any	flank–rear	Either
2	BMP–2	>2400	flank, rear	Stationary
2	BRDM2	>2400	flank, rear	Stationary
2	MI–8T/HIPC	>2400	front	Either
1	BMP–2	any	any	Moving
1	BRDM–2	any	any	Moving
1	ATGM (AT–4)	any	flank, rear	Stationary only
1	Truck w/Snapper	any	rear	Moving
1	BRDM–2LWR	any	front	Moving
1	MI–8T/HIPC	any	flank, rear	Either
1	Truck w/Snapper	any	flank, front	Either
1	BRDM–2LWR	any	flank, rear	Either
1	ZSU 23–4	any	any	Either
1	BTR 60/70	any	any	Either
1	RPG Team	any	any	Stationary only
1	Troops–squad	any	any	Either
0	Friendly	any	any	Either

Note: Front and rear include 1/4 front and 1/4 rear respectively

3.6 RETICLE AIM LEVELS OF DIFFICULTY

The Reticle Aim Level of Difficulty within each Advanced Gunnery Skills Levels (SK I, SK II, and SK III) shown in Figure 3–1 increases in difficulty by changing the way ownvehicle status conditions are communicated to the crew as shown:

- Advanced Skill Level 1: If the exercise is not designated as fully operational or an NBC condition exercise, a malfunction status condition will be announced to the crew in the crew instructions. This announced malfunction status condition will be present for the entire exercise.

- Advanced Skill Level 2: If the exercise is not designated as fully operational or an NBC condition exercise, a malfunction status condition will be announced to the crew in the crew instructions. However, the exercise will begin in the fully operational mode. The announced malfunction status condition will occur at some unannounced point during the first four situations.

- Advanced Skill Level 3: If the exercise is not designated as fully operational or an NBC condition exercise, the RA malfunctions will not be announced to the crew in the crew instructions. However, the malfunction will occur no later than the fourth situation of the exercise. No additional time will be allowed for malfunctions in this skill level. An additional unannounced malfunction will occur during the exercise. This additional unannounced malfunction will occur either from an ownvehicle hit or, if ownvehicle hit does not occur, the additional malfunction will occur within the last three situations of the exercise.

3.6.1 RETICLE AIM STATUS CONDITION

There are nine reticle aim status conditions in each of the Advanced Gunnery Skills levels SKI, SKII, and SKIII (see Figure 3–1). The nine reticle aim status conditions are divided into three groups, with three levels of reticle in each group. Each Advanced Gunnery Skills levels (SKI, SKII, and SKIII) group is down as follows:

a. **<u>Group 1 = Fully Operational</u>**

(1) (RA = F) Day visibility with fully operational vehicle using normal mode–precision gunnery techniques. (RA 1)

(2) (RA = T) Night visibility with fully operational vehicle using normal mode–precision gunnery techniques. (RA 2)

(3) (RA = N) Nuclear Biological Chemical (NBC) condition, with fully operational vehicle using normal mode–precision gunnery techniques. Malfunctions: NBC Filter Clogged and NBC Indicator. (RA 3)

b. **Group 2 = Malfunctions allowing use of Primary Sights (Battlesight Gunnery)**

(1) (RA= S) Battlesight gunnery with stabilization failure using emergency–precision gunnery techniques. Malfunctions: Stabilization and Lead Sensor. (RA 4)

(2) (RA= L) Battlesight gunnery with Laser Range Finder (LRF) failure using normal–battlesight gunnery techniques. Malfunctions: Laser Rangefinder. (RA 5)

(3) (RA= C) Battlesight gunnery using Commander's Independent Thermal Viewer (CITV) or Stadia Reticle gunnery techniques. Malfunctions: Gunner Primary Sight/Gunner Primary Sight Extension (GPS/GPSE), Gunner Power Control Handle (GPCH), Gunner Power Handle Triggers, and Manual Elevation Handle Trigger. (RA 6)

c. **Group 3 = Malfunctions allowing use of auxiliary Sights (Battlesight Gunnery)**

(1) (RA= G) Battlesight gunnery using Gunner Auxiliary Sight (GAS). Malfunctions: Gunner Primary Sight/Gunner Primary Sight Extension (GPS/GPSE), Thermal Imagine Sight (TIS), Computer, Laser Range Finder (LRF), Commander's Control Handle Assembly (CCHA), and Stabilization. (RA 7)

(2) (RA= M) Battlesight gunnery using Gunner Auxiliary Sight (GAS) with Manual controls. Malfunctions: Gunner Primary Sight/Gunner Primary Sight Extension (GPS/GPSE), Thermal Imagine Sight (TIS), Computer, Laser Range Finder (LRF), Commander's Control Handle Assemble (CCHA), Gunner Power Control Handle (GPCH), Lead Sensor, Cant Sensor, Crosswind Sensor, Gunner Primary Sight Symbology, and Stabilization. (RA 8)

(3) (RA= E) Commander's Battlesight gunnery, using normal or battlesight gunnery techniques. Malfunctions: Commander's Independent Thermal Viewer (CITV), Gunner Power Control Handle (GPCH), Manual Elevation Trigger and Power Triggers. (RA 9).

3.6.2 RETICLE AIM SCORING

Reticle Aim scoring involves those skills required to lay the reticle on the proper target aiming point and fire the first round/burst, time required to kill a given target(s) and the reticle aim errors for each target in a situation. Reticle aim scores are based on the lowest score received in any of the following three groups:

- **Group 1 Time of First Round/Burst**

Reticle aim time of first round/burst fired grades are divided into two different ownvehicle situations. One is Defense situation (stationary ownvehicle) and the second is Offense situation (moving ownvehicle). The crew's grades for first round/burst fired is described as follows:

a. Defensive Situations: The time to fire first round/burst begins when the initial target in a situation is activated and the ownvehicle reaches the enfilade position and ends when the first round/burst is fired. If the ownvehicle is in enfilade position at the time of initial target activation, that situation will be graded with offensive situation criteria. If the ownvehicle fires on an active target prior to reaching full enfilade, the Time to Fire First Round/Burst will be set to 0 seconds.

b. Offensive Situations: The time to fire first round/burst begins when the first target in a situation is fully exposed (3.5 seconds following target activation) and ends when the first round/burst is fired.

c. Offensive situations with stabilization failures: Five seconds are added to the time given for offensive situations. However, no additional scoring time will be added for any malfunction in Advanced Gunnery Skills III exercises.

Defensive Situations	Offensive Situations	Evaluation	Grade
0–4 sec	0–8 sec	4	A
>4–8 sec	>8–13 sec	3	B
>8–13 sec	>13–18 sec	2	C
>13 sec	>18 sec	1	F

- **Group 2 Time to Kill**

The Time to Kill calculation begins when the target is fully exposed during offensive exercises or when owntank reaches the enfilade position for the first time in a situation of defensive exercises and will end when the last target in the situation is killed or the situation ends. If ownvehicle is in the enfilade position at the time of initial target activation, the situation will be evaluated with Time to Kill criteria for Offensive situation. The crew's scores are based on the following criteria:

Stationary Owntank Main Gun/ Coax Target Kill Time				Moving Owntank Main Gun/Coax Target Kill Time				EVAL	GRADE
1	2	3	4	1	2	3	4		
0–5	0–15	0–25	0–35	0–10	0–20	0–30	0–40	4	A
>5–10	>15–20	>25–30	>35–40	>10–15	>20–25	>30–35	>40–45	3	B
>10–15	>20–25	>30–35	>40–45	>15–20	>25–30	>35–40	>45–50	2	C
> 15	>25	>35	>45	> 20	> 30	> 40	> 50	1	F

NOTE: It is not possible to kill point type targets other than trucks with coax ammunition.

NOTE: No additional time is allotted for exercises with malfunctions in Advanced Gunnery Skills III.

(1) For laser range finder failure and target(s) not within ±200 meters of the battlesight range selected by the crew at time of fire, the following applies:

(a) In stationary ownvehicle exercises, add 5 seconds for each occurrence.

(b) In moving ownvehicle exercises, add 5 seconds for each occurrence.

NOTE: A maximum of one target per situation will be placed outside battlesight range.

(2) Add 5 seconds to moving ownvehicle exercises with stabilization failure.

(3) COAX: Minimum of 10 rounds must hit truck targets to be scored as a kill.

(4) Add 5 seconds for area targets.

(5) Add 15 seconds to ownvehicle exercises with more than two targets when ownvehicle is forced to return to enfilade and moves to an alternate firing position because of a near miss. Near miss criteria is further discussed on page 3–15.

(6) Any Situation in which a friendly target occurs and no round(s) are fired within 20 mils of that target, Time to Kill grade will be a "B" for that situation. If the target is fired on within 20 mils, the Time of Fire grade will be an "F".

(a) Percent Coverage for Area Targets – are scored based on the percent of target coverage in the time allotted as follows:

Percent Coverage	Evaluation	Grade
80 percent or higher	4	A
50 – < 80 percent	3	B
30 – < 50 percent	2	C
less than 30 percent	1	F

(b) If more than 100 Coax rounds are fired at any one target, the Reticle Aim score will drop one letter grade (i.e., an "A" will become a "B").

- **Group 3 Reticle Aim Error**

Reticle Aim error is evaluated only for main gun rounds. Two hit plates are present for maingun target(s) presented; a mobility kill (M–kill) and a catastrophic kill (K–kill). The mobility kill hit plate is a portion of the target, that when a hit results in the target losing mobility, but the target is still capable of firing its weapon. The catastrophic kill hit plate is an area of the target, that when hit by the projectile, results in the target losing both it's mobility and weapons firing capability. Trucks and helicopters have only catastrophe kill plates. Reticle Aim error is defined as the total distance the reticle is off the center of mass of the target at the time of trigger pull. Reticle Aim error scoring is based on the following:

a. First round fired:

Reticle Aim Error	Evaluation	Grade
Target hit, K–kill achieved	4	A
Target missed and no second round fired	1	F

b. Second round firing:
If the target is killed (K–kill) with round 1, subsequent rounds fired will not have an impact on the score. If a second round is fired due to a first round miss or mobility kill, the evaluation will be based on the following criteria:

Reticle Aim Error	Evaluation	Grade
Target hit, K–kill achieved	3	B
Target missed	1	F

c. If the exercise being fired has an LRF malfunction, and the target is not within ±200 meters of the battlesight range selected by the crew at the time of fire, the reticle aim error evaluation will be based on the following:

First or Second Round Reticle Aim Error	Evaluation	Grade
Target hit, K–kill achieved	4	A
Both rounds M–Kill, target missed, or no subsequent round fired.	1	F

d. MPAT Air Mode Reticle Aim Error: When the ammunition loaded is MPAT AIR, the grading is based on the following:

Main Gun Round Reticle Aim Error	Evaluation	Grade
Round impact < 1 mil from center of mass	4	A
Round impact >1–2 mils from center of mass	3	B
Round impact >2–3 mils from center of mass	2	C
Round impact >3 mils from center of mass	1	F

NOTE: MPAT Ground is scored the same as other main gun targets.

3.7 SYSTEM MANAGEMENT LEVELS OF DIFFICULTY

System Management is broken down into four skill levels (see page 3–2) to evaluate crew's ability to operate as a crew. The use of correct principles and techniques of gunnery, while firing at moving or stationary targets from a moving or stationary ownvehicle, are described below:

- SM1 = Stationary Ownvehicle, Stationary Targets
- SM2 = Moving Ownvehicle, Stationary Targets
- SM3 = Stationary Ownvehicle, Moving Targets
- SM4 = Moving Ownvehicle, Moving Targets

3.7.1 SYSTEM MANAGEMENT SCORING

System Management evaluates the crew's ability to operate as a crew while using the correct principles and techniques of gunnery. System Management scores are based on the lowest score received in any of the three following groups:

- **Group 1** **Prefire Switch Errors**. Prior to firing the Main Gun or COAX machine–gun, the system will evaluate the following switches and conditions:

  a. Laser Range Finder has not been activated (error indicated by an "L").

  b. Relasing does not occur between main gun rounds (error indicated by an "L").
  The prefiring scores are based on the following:

Number of Prefiring Errors	Grade
0	A
1	B
2	C
>2	F

- **Group 2** **Time of Fire (TOF) Switch Errors.** When any of the simulated weapon systems are fired, the following switches and conditions will be evaluated for correctness:

  a. Weapon/Ammo – Table 3–3 illustrates crew ammo selection versus target–type firing errors. An "Error" indicates an incorrect ammunition for the target described and will be indicated on the Performance Analysis as an error by the letter "A".

Table 3–3. Ammo Time of Fire Errors

Ammo	T–80/T–72	BMP/BRDM/ ZSU23–4/BTR	Troops/ RPGs	Truck	HIND–D/ MI–8C
SABOT	OK	OK (1)	Error	OK (1)	OK
MPAT–A	Error if target is front and/or >700 meters	Error if target is >700 meters	Error	Error if target is >700 meters	OK
MPAT–G	OK (2)	OK	Error	OK	Error
HEAT	OK (2)	OK	Error	OK	Error
COAX	Error	Error	OK	OK	Error
STAFF	TBD	TBD	TBD	TBD	TBD

NOTE 1: No ammunition errors will be scored for the first main gun round fired at a point target.

NOTE 2: OK for flank or rear shot.

  b. At the time of main weapon fire, the sight being used is set to low power (error indicated by an "M").

  c. The ammo selector does not match the ammo fired providing there is no ballistic computer malfunction (error indicated by an "R").

d. The GAS reticle does not match the ammo fired (error indicated by an "R").

e. The gunner's thermal sight is in use and an OIP cue is active (error indicated by an "O").

f. MPAT AIR fired at a ground target or MPAT GROUND fired at an air target (error indicated by a "G").

System Management Time of Fire Errors scores are based on the following:

Number of TOF Errors	Evaluation	Grade
0	4	A
1	3	B
2	2	C
>2	1	F

- **Group 3** **Procedure Errors.** During the exercise, the system evaluates switch and vehicle positions for:

1. Crew fails to perform an MRS update after firing six to ten main gun rounds (error indicated by an "U"). Exercises with stabilization failure or GPS/GPSE malfunctions not required to perform an MRS update.
2. Defilade – In stationary owntank exercises, a defilade procedure switch error will be assessed if:
   a. Owntank fails to start a return to defilade position within 10 seconds of an enemy projectile impacting 100 meters to the front, left, right, or a hit on owntank (error indicated by a "D").

NOTE:

If an alternate position is available in stationary ownvehicle exercises, and ownvehicle returns to enfilade at the same position, after receiving a hit and all tank and limited destroyer targets have not been killed, ownvehicle will be killed 5 seconds after returning to the original enfilade position.

   b. Owntank returns to defilade before all targets are killed (K–Kill) and enemy projectile has not impacted 100 meters to the front, left, right, or a hit on owntank (error indicated by a "D").
3. When owntank sustains a hit, 1 error is assessed (error indicated by a "H")
4. NBC mode backup – Failure to activate NBC mode backup within 15 seconds of the warning message "NBC Filter Clogged" appearing on the CDU display (error indicated by an "N").

NOTE:

Ownvehicle kill–hit will be simulated by the "ownvehicle kill" sound sequence being activated and all sights "black out" for a period of 5 seconds. You must null the drift before the start of the next situation in the exercise.

System Management Procedure Errors scores are based on the following:

Number of Procedure Errors	Evaluation	Grade
0	4	A
1	3	B
2	2	C
>2	1	F

3.8 ADVANCED GUNNERY SKILLS PROGRESSION CRITERIA

When firing by computer recommendation, the scores for each situation are received and the computer calculates an average score for each skill area which is then used as the basis for a crew progress recommendation. Table 3–4 illustrates the standards used by the computer to arrive at a crew progress recommendation. The computer then compares the progress recommendation with the matrix movement rules and recommends the next exercise for the crew to fire. If the exercise is not completed, the previous computer recommendation will be used.

Table 3–4. Progression Criteria

Grade	Average Score Value	Recommendation
A	3.5 – 4.0	Rapid Advance
B	2.5 – 3.4	Normal Advance
C	1.5 – 2.4	No Advance
F	0.0 – 1.4	Reduced

3.8.1 ADVANCED GUNNERY SKILLS MATRIX MOVEMENT RULES

Progression through the Advanced Gunnery Skills matrices is guided by matrix movement rules designed to prevent critical levels of training from being passed over. The Matrix Movement Rules and the Special Rules prevent crew movement in the matrices before the crew has mastered the standards associated with a particular skill area. After an exercise is completed, and the scores for each of the skill dimensions have been calculated, the system checks the matrix movement and special rules against the computer recommendations before the next exercise is recommended. The Matrix Movement Rules are shown in Table 3–5; Special Rules are described in paragraph 3.8.2.

Table 3–5. Matrix Movement Rules

Skill Dimension	Matrix Movement Rules		
	To Next Higher Level	Remediation Recommendation	To Skip a Level
Target Acquisition (TA)	Randomly selected by computer. If normal advance recommendation for the last exercise fired is received. In special cases, movement to the next level in system management is recommended.	Randomly selected by computer. Two no advance or reduce advance recommendations for the last exercise fired is received. Remediation training will be recommended.	Not allowed. Randomly selected by computer. In special cases, movement to the next level in reticle aim and system management is recommended.
Reticle Aim (RA)	Normal advance, except in certain special cases.	Two no advance or one reduce advance recommendations for the last exercise fired. Remedial training is suggested	Rapid advance recommendation. In special cases, movement to the next level in reticle aim and system management maybe recommended.
System Management (SM)	Normal advance, except in certain special cases.	Randomly selected by computer. Two no advance or reduce advance recommendations for the last exercise fired is received. Remediation training will be recommended..	Randomly selected by computer. If rapid advance recommendation for the last exercise fired is received. In special cases, movement to the next level in system management is recommended.

3.8.2 SPECIAL RULES

Special rules have been designed to ensure that crews do not progress out of an Advanced Gunnery Skills level prior to demonstrating proficiency in the critical tasks of that skills level. These rules accomplish the following:

a. After the crew successfully completes one of the four Gate–To–Live Fire Basic Gunnery Skills exercises, the computer will select one of the fully operational Reticle Aim (RA) level 1, 2, or 3 exercises in Advanced Gunnery Skills I (SK I), System Management 1 (SM 1) (see Figure 3–1).

b. To advance in reticle aim and system management, the crew must receive a passing grade at a minimum of "NORMAL ADVANCE" in all three skill dimensions RA, TA, and SM (see Figure 3–1).

c. Once a crew has successfully passed an exercise with a recommended grade of "NORMAL ADVANCE", in all three skill dimensions, the computer selects one of the remaining Reticle Aim (RA) status conditions, in randomized sequential order, until all RA levels in that System Management level have been fired. However, when eight Reticle Aim (RA) status condition exercises in the current System Management level are successfully fired, the computer will:

- Select a repeat of one of the Reticle Aim status condition exercises.

or

- Select the ninth Reticle Aim (RA) level exercise that has not been fired.

d. All nine Reticle Aim (RA) status conditions and the tenth randomly selected Reticle Aim (RA) status condition, exercises in Advanced Gunnery Skills 1 (SK I) at System Management 1 (SM 1), must be fired before progressing to the next SM level.

e. Each time the crew advances from one System Management level to another, the computer selects one of the fully operational Reticle Aim (RA) levels 1, 2, or 3 in the next System Management levels (1, 2, 3, and 4), providing Reticle Aim levels 1, 2, 3 have not been fired and passed in a previous system management level of the same Advanced Gunnery Skill Level (see Figure 3–1). If Reticle Aim levels 1, 2, and 3 have been fired and passed, then a Reticle Aim status condition that has not been fired previously in the same Advanced Gunnery Skill level will be selected.

f. If a grade of "RAPID ADVANCE" is received in any skill area for the last exercise fired, the remaining Reticle Aim (RA) status condition exercises, in that SM level, is skipped providing that the matrix location is not Advanced Gunnery Skills I (SK I), System Management 1 (SM 1). If a grade of "Rapid Advance" is received in the System Management Level 4 of any Advanced Gunnery Skill level, then the remaining Reticle Aim Status conditions that have not been fired will be selected before a move to the next Advanced or Sustainment Gunnery Skill level is allowed.

g. If a grade of two consecutive "NO ADVANCE" in the same skill area or one "REDUCE ADVANCE" grade is received for the last exercise fired, the computer recommends remedial training.

3.9 SUSTAINMENT TRAINING

Sustainment training is automatically selected by the computer after a crew has successfully completed firing of the Advanced Gunnery Skills III exercise.

Sustainment Training exercise is selected from any of the Advanced Gunnery Skills levels (SKI, SK II, and SK III). All scoring times are in accordance with Advanced Gunnery Skills level III rules. If crew fails the exercise, a replication of exercise is then presented to the crew.

3.10 BASIC GUNNERY PRE–LIVE FIRE EXERCISES

Basic Gunnery Skills Pre–Live Fire Exercises are arranged so that each provides practice in a Tank Table task. Basic pre–live fire exercises present defensive and offensive situations that require the crew to engage enemy targets spread across a narrow sector (32 degrees or less). Target delay times for all basic pre–live fire exercises are similar to delay times reflected in Tank Table VIII engagements of ST 17–12–1A2. Malfunctions in basic pre–live fire exercises are based on actual Tank Tables. Malfunctions are announced to the crew during the crew instructions and will be present throughout the situation. Matrix movements between one basic pre–live fire exercise to the next is a linear progression. Each pre–live fire exercise has 5 situations. A crew must score 70 or higher in a minimum of 3 of the 5 situations, with a total of 350 or higher to PASS. Basic pre–live fire exercises are arranged so that each subsequent Tank Table task is progressively more difficult.

3.11 BASIC GUNNERY SKILLS GATE–TO–LIVE FIRE EXERCISES

Basic Gunnery Skills Gate–To–Live Fire Exercises are available only at the successful completion of the Basic Pre–Live fire exercises. There are four Gate–To–Live Fire Exercises, with 4, 5, or 6 situations in day and 4, 5 or 6 situations in night, for a total of 10 situations per exercise. Scoring for Gate–to–Live fire is identical to Table VIII scoring criteria. Upon successful completion of one of the Gate–To–Live Fire Exercises, a crew automatically progresses to the Advanced Gunnery Skills Level exercises (see Figure 3–1). A crew must score 70 or higher in a minimum of 7 of the 10 situations, with a total of 700 or higher to PASS. Gate–to–Live fire exercise instructions to the crew do not include malfunctions or corrective procedures.

3.12 CRITICAL PATH GUNNERY TRAINING

At the discretion of the training manager, crews who have completed Basic Gunnery training can re–enter the Basic Pre–Live fire sequence, leading to a completion of one of the four Basic Gate–to–Live fire exercises. The intent of this repetition of basic skills training is to provide a “critical path” sequence that can be utilized prior to Table VIII gunnery. When the training manager enables Basic Gunnery Skills training for crews who are currently training in Advanced Gunnery Skills or Sustainment training, crew records are maintained for crews progress at new location. The Instructor/Operator selects which Training Program will run from the Initialization page (see page 2–40). The I/O is not permitted to change this initial selection, only the Training Manager via the Training Manager System (see page 4–6) may enable the critical path.

3.13 NEAR–MISS AS RESULT OF ENEMY FIRE

Near–Miss as a Result of Enemy Fire applies to defensive situation of Advanced Gunnery Skills I, II, and III. An active target fires a near–miss 10 to 14 seconds (randomly) after an ownvehicle arrives at the enfilade position. One second later, an explosion impacts 100 meters to the front, left or right–front of ownvehicle. A near–miss occurs in not more than 50% of the situations. Enfilade time is reinitialized if ownvehicle returns to defilade position.

For an offensive situation in Advanced Skill levels I, II, or III, a near–miss occurs 20 to 25 seconds after full target exposure (defined as 3.5 seconds following target activation). The number of seconds is varied randomly within these limits. A near miss will occur in not more than 50% of the situations.

3.14 HIT ON OWNVEHICLE

Hit on Ownvehicle will occur 18 to 24 seconds (randomly) from the time own vehicle arrives at the enfilade position and when the ownvehicle remains exposed after receiving a near miss and all tank killer or limited destroyer targets are not killed, If, after receiving a hit, the ownvehicle does not return to a defilade position and receives a second hit, ownvehicle will be killed for current situation. Time interval for hit on ownvehicle is reinitialized (restarted) if ownvehicle returns to defilade after receiving a near miss explosion. Additionally, if an alternate position is available and ownvehicle returns to previous position after being hit or forced to return to defilade and all tank or limited tank destroyer targets have not been killed, ownvehicle will be hit and killed five seconds after leaving defilade position. This rule applies to Advanced Gunnery Skills Levels I, II or III.

For offensive situations, a hit on ownvehicle occurs 10 to 14 seconds (randomly) after a near–miss is received and all tank or limited tank destroyer targets are not killed. Hit on ownvehicle criteria is as follows;

a. Special Purpose exercises – Near–Miss or Hit on ownvehicle will not occur.

b. Pre–Live Fire exercises – Near–Miss or Hit on ownvehicle will not occur.

c. Gate–to–Live Fire exercises – Near–Miss or Hit on ownvehicle will not occur.

d. Advanced Gunnery Skills Levels – ownvehicle can be hit/killed in defensive situations, ownvehicle cannot be killed in offensive situations.

3.15 THREAT TARGET LIMITATIONS

Threat target limitations vary from vehicle to vehicle depending on the target. Stationary or moving targets will increase or decrease threat capability. Listed below are threat target limitations:

a. Tank targets are capable of destroying your vehicle if the threat tank target is moving, stationary, frontal or flank.

b. Hind–D are capable of destroying your vehicle if the Hind–D's target is moving or stationary, but must be frontal facing your vehicle.

c. RPG teams are capable of destroying your vehicle if team is within 300 meters of ownvehicle.

d. M1–8C's are capable of destroying your vehicle if the MI–8C target is hovering (and armed with ATGM) and frontal facing your vehicle.

e. AT–4 w/Spigot and BMP–2 w/Spandrel's must be stopped.

f. BRDM–2 must be stopped with rocket launcher raised.

g. w/Spandrel's

3.16 RESULT OF HIT ON OWNVEHICLE

Ownvehicle hit is simulated by a loud explosion. A bright flash of red orange light can be seen in all active sights and vision blocks.

a. 20 percent of the time – Random gun tube bend error will result in an MRS error of +/– 1.5 mils in azimuth and +/– 1.5 mils in elevation. MRS error due to a direct hit affects the GPS and TIS reticle.

b. 10 percent of the time – Computer lockup (failure) that prevents the correct computer system ballistic solution or super elevation. Computer lockup prevents Laser Range Finder (LRF) information from being induced to the sights.

c. 10 percent of the time – GPS symbology failure.

d. 20 percent of the time – Stabilization failure requiring the use of emergency mode operation.

e. 20 percent of the time – Owntank kill or GPS/TIS failure. If ownvehicle kill is permitted for exercise type, kill will momentarily blank all sights and cease radio communications. Instructor/crew intercom will remain operational. If the exercise type does not allow an OV kill, GPS/TIS will fail.

f. 20 percent of the time – No degradation.

NOTE: For GPS/TIS failures, TIS will not fail in a night exercise (RA – T) or (RA – E).

3.17 INTER–VEHICLE INFORMATION SYSTEM (IVIS) MESSAGES

IVIS messages are available to the Instructor/Operator at the beginning of each crew exercise in Advanced Gunnery Skills Level exercises of the AGTS Crew Training Program for M1A2 SEP tank crews. The information must be read to the crew. Electronic messaging capability is not currently functional on the M1A2 SEP AGTS.

3.18 INTRAVEHICLE AMMO TRANSFER

Intravehicle ammo transfer is initiated from the exercise freeze mode. Crew ammo transfer requires recognition of the ownvehicle position and situation type. To initiate ammo transfer in an offensive situation, ownvehicle must be halted (prior to freezing exercise), main weapon must be set “SAFE”, all active targets must be killed or deactivated, and “MODE” switch must be set to “MANUAL”, if ammo is being transferred from the hull. Mode switch is only required to be set to “MANUAL” if ammunition is being transfer from tank hull to tank turret. To transfer ammunition during a defensive situation, all threat targets must be killed or deactivated, ownvehicle must be halted and in defilade position (prior to freezing the exercise), main weapon must be set to “SAFE”, and “MODE” switch must be set to “MANUAL”, if ammo is being transferred from tank hull to tank turret. Ammo transfer request is made by the crew via the intercom.

The Instructor/Operator (I/O) activation of the AMMO TRANSFER key allows the I/O to select type, quantity, source (semi–ready or hull) and destination of ammo (semi–ready or ready). The Instructor/Operator Station display includes the amount of ammo available (by type) in the ready rack, semi–ready rack, and hull. If the type of ammo requested is not available from the source defined, request will be denied. If the quantity of ammo type requested is greater than the quantity available from the defined source, the amount of ammunition available of the type requested will be transferred. If the quantity of ammo requested exceeds the stowage capacity of the destination specified, the maximum capacity of the destination specified will be filled and the remaining ammo will remain in the source location. Transfer from the semi–ready rack to ready rack will take 1 minute. Transfer from the hull to ready or semi–ready rack will be completed in 2 minutes.

3.19 SPECIAL PURPOSE EXERCISES

There are 43 Special Purpose exercises in the Crew Training Program designed to familiarize/orient the crew with equipment, or train the crew on procedural tasks, such as boresight and calibration/zero of a particular weapon system in European or Desert database environments. These tasks do not have a specific scoring system and require the instructor's assessment of the crew's performance.

3.19.1 ORIENTATION/FAMILIARIZATION

Orientation/Familiarization exercise has some unique differences. This exercises provided to introduce crews to the AGTS simulator and provide demonstrations of the visual and aural effects of the trainer. The exercise consists of a variety of stationary target prestations, and visibility conditions. When targets activate, they remain activated until they are destroyed or the exercise is terminated.

3.19.2 ACQUISITION/MANIPULATION

Acquisition/Manipulation exercises have some unique differences. These exercises are designed to train the Commander and Gunner in the correct technique for acquiring a target, achieving correct reticle lay, and tracking a moving target. Five exercises are Gunner exercises intended to develop acquisition and manipulation skills in both power and manual modes. Four exercises are provided to develop acquisition and manipulation skills necessary for the Commander.

3.19.2.1 ACQUISITION/MANIPULATION TARGET ACQUISITION SCORING

Target acquisition scoring is modified for acquisition/manipulation exercises. Acquisition scoring is broken down into two groups as follows:

Group 1: Target Acquisition Time:

(1) Defense – Target acquisition time begins when the targets are fully exposed and ends when owntank reaches enfilade position. Target acquisition time evaluation for stationary ownvehicle exercises is based on the following criteria:

Acquisition Time	Grade
0–10 seconds	A
>10–20 seconds	B
>20–25 seconds	C
>25 seconds	F

(2) Offense – Target acquisition time begins when the target is fully exposed and ends when owntank activates the trigger. Target acquisition time evaluation for moving ownvehicle exercises is based on the following criteria:

Acquisition Time	Grade
0–4	A
>4–6.5	B
>6.5–9	C
>9	F

Group 2: Identification errors – Target identification errors are counted if:

(1) The designated trigger is activated with reticle on a non–target (greater than 20 mils from target center on point targets and greater than 100 mils from target center on area targets). One error is recorded as an "I" at 20 second intervals.

(2) Designated triggers not engaged between target activation and deactivation, recorded as two errors, indicated by a "2I".

(3) No error will be scored if no trigger pull occurs and the target is a friendly target.

The target identification/clarification evaluation will be based on the following:

Acquisition Time	Grade
0	A
1	C
>1	F

3.19.2.2 ACQUISITION/MANIPULATION RETICLE AIM SCORING

The reticle aim measured state is based on the lowest (worst) score received in any of the following three groups:

Group 1: Time to trigger activation – The time to trigger activation begins when the initial target in a situation is fully exposed during offensive exercises or when ownvehicle reaches the enfilade position for the first time in the situation of defensive exercises and ends when the trigger is activated. The time to trigger activation will be based on the following time limits:

Stationary Owntank Main Gun/Coax	Moving Owntank Main Gun/Coax	Grade
0–4 seconds	0–8 seconds	A
>4–8 seconds	>8–13 seconds	B
>8–13 seconds	>13–18 seconds	C
>13 seconds	>18 seconds	F

Exception: Add 5 seconds to moving owntank exercises with a stabilization failure.

Group 2: Reticle Aim Error – At trigger activation. The reticle aiming error is the total distance the reticle is off the centroid of the target or, the correct aiming point for situations requiring manual lead aim off. For exercises utilizing normal mode, the correct aiming point will be ahead of the target 2.5 mils for APFSDS ammunition, and 5.0 mils for MPAT/HEAT ammunition.

For exercises using GAS reticle, the correct aiming point is at the 1200 meter reticle line for APFSDS, and 900 meters for MPAT/HEAT (both are elevations). The correct azimuth aiming point will be 2.5 mils, and 5.0 mils ahead of the target for APFSDS and MPAT/HEAT, respectively.

The reticle aim error is scored at trigger pull and elevations are based on the following criteria:

Reticle Error	Evaluation	Grade
Less than, or equal to, projected K–Kill hit plate	4	A
Greater than K–Kill but less than, or equal to, the projected M–Kill hit plate	3	C
Greater than projected M–Kill hit plate	1	F

Group 3: Tracking Evaluation. During moving target acquisition/manipulation situations, a tracking evaluation is made. Once the trigger is activated, tracking is evaluated until the targets deactivates. The evaluation is made on the percentage of time the reticle remains within an area defined by the kill hit plate (or the proper aiming point during an emergency and manual mode operation). The tracking evaluation score is determined as follows:

Percent of Time	Evaluation	Grade
100–85%	4	A
84–70%	3	B
69–55%	2	C
<55%	1	F

3.19.2.3 ACQUISITION/MANIPULATION EXERCISE SYSTEM MANAGEMENT SCORING

The system management grades are the lowest (worst) score received in either of the following two groups.

Group 1: Prefiring Switch Errors. Prior to trigger activation of the main weapon, the following conditions are evaluated for correctness:

Laser Range Finder has been activated.

Number of Prefiring Errors	Evaluation	Grade
0	4	A
1	3	B
2	2	C
>2	1	F

Group 2: Time of trigger pull switch errors. When any simulated weapon systems triggers are activated, the following switches and conditions will be evaluated for correctness:

a. Ammunition errors – Are evaluated the same as a normal exercise.
b. Reticle errors – A reticle time of trigger pull switch error will be scored if the sight in use (GPS/GPSE/CITV) is in low power magnification, ammo selector does not match ammo fired, if GAS is in use, reticle does not match ammo fired, gunner's thermal sight is in use, and an/or OIP cue is active in the exercise.

The time of trigger pull switch error evaluation will be as follows:

Number of Trigger Pull Switch Errors	Evaluation	Grade
0	4	A
1	3	B
2	2	C
>2	1	F

Acquisition/Manipulation Situation Monitor/Performance Analysis

The situation monitor display page is modified for acquisition and manipulation exercises. The number of rounds field is blank (...) during these exercises. The result/errors field will indicate the time the reticle was within the correct aiming area (KILL 72%) for moving target situations, and will indicate (KILL – 0%) for stationary target exercises. Azimuth and elevation fields will indicate the distance reticle was off ideal aim point throughout the scoring period.

The performance analysis page is modified for acquisition and manipulation exercises. The Kill and Hit fields are determined at the time of trigger pull. If the round hits the K–kill hit plate, a K will be placed in the field. If the round would have hit the M–kill hit plate, the field is blank (...). The number of rounds field is also blank (...). The shot pattern will not plot projected maingun rounds hits.

3.19.3 COMMANDER'S INDEPENDENT THERMAL VIEWER (CITV) HANDOFF SCORING

During Commander's Independent Thermal Viewer (CITV) target handoff exercises, target acquisition criteria designation time begins at full target exposure (3.5 seconds following target activation). The designation time ends with the activation of the CITV designate switch at the last active target in a situation. If the designate switch is not activated, the designate time score is set to "F". Table 3–6 below shows CITV Target Acquisition Criteria.

Table 3–6. CITV Designate Time Evaluation

Time	Evaluation	Grade
0–20	4	A
>20	1	F

CITV target handoff exercises Reticle Aim Criteria is scored the same as Advanced Gunnery Skills exercises.

CITV target handoff exercises System Management measured state is the lowest (worst) score received in either of the following groups:

Group 1: CITV Pre–firing Switch Errors are scored as follows:

a. One error will be scored in LRF malfunction exercises for each activation of the target designate switch if the commander, using the stadia reticle, fails to determine range to the target(s) to an accuracy of equal to, or less than, 300 meters prior to activating the designate switch.

b. One error is scored for each situation in which the commander fails to designate the last active target in the situation.

c. One error is scored for each activation of the target designate switch (within time allowed) if target is greater than three degrees from center of the field of view.

d. Prior to firing any weapon(s), the laser rangefinder is evaluated. Additionally, between main gun rounds, a check is made to determine if relasing has occurred.

e. Laser rangefinder error's are not counted if the laser rangefinder is malfunctioning.

Additionally, between main gun rounds, a check is make to determine if re–lasing has occurred. Pre–firing switch errors are not counted if the LRF malfunction is active. The pre–firing evaluation is based on the following criteria:

Table 3–7. Predesignate Switch Evaluation Table

Number of Errors	Grade
0	A
1	B
2	C
>2	F

3.19.4 INTER–VEHICLE INFORMATION SYSTEM (IVIS) MESSAGES GUNNERY SCORING

Electronic messaging capability is not currently functional on the M1A2 SEP AGTS. The IVIS spot reports are available to the I/O which may be read to the crew during training.

3.19.5 OIP GUNNERY SCORING

The OIP gunnery exercises are scored like advanced gunnery exercises. There are four OIP exercises provided as part of the AGTS Crew Training Program package. These exercises place the crew (commander and gunner) in simulated battlefield conditions to engage enemy targets. During each exercise, at least one "battlefield phenomenon" will occur, designed to prompt the crew to implement OIP procedures. There are five possible OIP switch settings; one of which is "shutter" which does not allow the gunner to see through the sight. Four OIP filter switch settings are monitored to determine if the gunner selects an effective filter position when a visual cue is presented. The correlation between the visual cue observed and the filter setting that minimizes that cue is randomized. An error is scored if the gunner's thermal sight is in use and an OIP cue has not been effectively filtered using one of the filter switch positions.

3.19.6 COAX MACHINE–GUN SCORING

There are four Special Purpose exercises for COAX engagement training. The coax exercises are similar to Tank Table V as shown in ST 17–12–1A2, June 1995. Scoring of these exercises are identical to an Advanced Gunnery Skills exercise.

3.19.7 LONG RANGE GUNNERY SCORING

There are four Long Range gunnery exercises provided to train long range gunnery skills. Targets are presented during the exercise from a range of 2000 to 5000 meters. The exercises are scored the same as an Advanced Gunnery Skills exercise.

3.19.8 EVASIVE HELICOPTER SCORING

There are four unique Evasive Helicopter exercises. All four exercises are fired from the halt position. Single helicopter targets is presented from various angles and at different speeds in each exercise. These exercises are conducted under both day and night conditions. Two crew exercises provide the gunner the opportunity to use the GPS and TIS. Two commander exercises to provide the commander with an opportunity to use the CITV and GPSE.

3.19.9 KILLER TANK SCORING

The killer tank special purpose exercises are scored like advanced gunnery exercises, except no time of fire error is scored for failing to perform an MRS update after six rounds.

3.19.10 BORESIGHT/ZERO/SCREENING SCORING

There is one exercise that places the crew station into operation, completes boresight, zero, and screening test requirements for all reticle and weapons used in the vehicle. The prepare crew station portion of this exercise takes 30 minutes to complete and is used prior to conducting training to ensure the correct setting of knobs, switches, and controls. It is identical to the procedures as outlined in the ST 17–12–1–A2 with the exception that when the procedure involves a nonfunctional component in the AGTS. The boresight portion takes 15 minutes and is used to complete boresight and calibration for GPS/GPSE/GAS/CITV reticle using the main gun, and to zero the COAX machine gun. The Boresight/Zero/Screening exercise is not scored by the computer, the I/O evaluates the exercise and critiques the crew is performance.

3.20 EXERCISE NUMBERING

AGTS Crew Training Plan exercise numbers are based on Type, Description of skill level and conditions, Sequence, Database, and Visibility for each exercise. Every exercise is identified by an eight digit number. The number corresponds to an eight character alpha–numeric label for all M1A2 SEP exercises. Table 3–8 provides Special Purpose Exercise Number Sequence of Characters.

Table 3–8. Special Purpose Exercise Number Sequence of Characters

Type	Description	Description	Description	Sequence	Distractors	Data-base	Visibility
Extended	Task	Task	Sequence	Malfunction	Distractors	Database	Visibility

3.20.1 ALPHA / NUMERIC AND NUMERIC LABEL FOR SPECIAL PURPOSE EXERCISES

The first character of all Special Purpose exercise numbers will always begin with a “1 or E” indicating Ex tended (Special) training as shown in the first column ”**Type**”, first row ”Extended” of Table 3–8. The next two characters under the first two “**Description**” columns identify the tasks for the exercise(s). The fourth character is located in the third “**Description”** column which identifies the exercise sequence number. The fifth character under the “**Sequence**” column identifies any malfunctions that may occur during the exercise(s). The sixth character under the “**Distractors**” column identifies any distraction the crew will experience during firing of the exercise(s). Special Purpose exercises always default to a “1 or N” indicating no distractions for Special Purpose exercise(s). The seventh character under the “**Database**” column identifies the database environment for the exercise(s). All Special Purpose exercises default to “0” indicating European database except for Orientation/Familiarization and Acquisition/Manipulation exercises. The eighth character under the “**Visibility**” column identifies the visibility selections available for the exercise(s). Use the information provided in Table 3–8 above and Table 3–13 to Table 3–20 to depict numeric or alpha–numeric labels for any Special Purpose exercise(s). Listed below are the initial and last exercise labels, followed by exercise numbers, in each Special Purpose exercise.

- Orientation/Familiarization Exercises: EFA11N0U
  10011101
- Acquisition/Manipulation Exercises: EAM11N0U through EAM99N5U
  11111101 through 11199151
- CITV Target Hand–off Exercises: ECV11N0U through ECV81N4T
  12211101 through 12281147
- IVIS MSG Gunnery Exercises: EIV11N0U through EIV11N4U
  (Not currently supported) 13311101 through 13311141
- OIP Gunnery Exercises: EAG1130U through EAG4134U
  14411101 through 14441141
- Coax Machine-gun Exercises: ECX11N0U through ECX41N4T
  15511101 through 15541147
- Long Range Gunnery Exercises: ELR11N0U through ELR41N4T
  16611101 through 16641147
- Evasive Helicopter Exercises: EEH11N0U through EEH49N4T
  17711101 through 17749147
- Killer Tank Exercises: EKT11N0U through EKT49N4T
  18811101 through 18849147
- Boresight/Zero/Screening Exercise: EBZ11N4U
  19911141

3.20.2 ALPHA / NUMERIC AND NUMERIC LABEL FOR BASIC GUNNERY EXERCISES

The Alpha/Numeric and Numeric Label for Basic Gunnery exercises are described in the following paragraphs:

a. The first character of all Basic Gunnery Pre–Live Fire exercise numbers is either a "2 or B", indicating that the exercise is a Basic Pre–Live Fire exercise as shown in the first column "**Type**" of Table 3–9.

b. The next three characters under the "**Description**" columns are mnemonic for Basic Pre–Live Fire (PLF) exercise(s).

c. The fifth character under the "**Sequence**" column identifies the exercise sequence number within Basic Pre–Live Fire exercise(s).

d. The sixth character under the "**Distractors**" column identifies any distraction the crew will experience during the firing of the exercise(s). Basic Gunnery Pre–Live Fire exercises default to a "1 or N" indicating no distractions for the Basic Gunnery Pre–Live Fire exercise(s).

e. The seventh character under the "**Database**" column identifies the database environment for the exercise (ie; European or Desert). All Basic Gunnery Pre–Live Fire exercises default to a "0" indicating a European database.

f. The eighth character under the "**Visibility**" column identifies the visibility selections available for the exercise(s).

Use the information provided in Table 3–9 below, and Table 3–13 through Table 3–20 to depict numeric or alpha–numeric labels of any Basic Gunnery Pre–Live Fire exercise(s).

Table 3–9. Basic Gunnery Pre–Live Fire Exercise Number Sequence of Characters

Type	Description	Description	Description	Sequence	Distractors	Database	Visibility
Basic	Pre	Live	Fire	Sequence	Default	Database	Visibility

g. Listed below are the initial and last exercise labels, followed by exercise numbers in each Pre–Live Fire exercise.

- Pre–live Fire Exercise: BPLF1N0U through BPLF7N4U
  22221101 through 22227141

3.20.3 ALPHA / NUMERIC LABEL FOR GATE–TO–LIVE FIRE EXERCISES

The Alpha/Numeric and Numeric Label for Gate–To–Live Fire exercises are described in the following paragraphs:

a. The first character of all Gate–To–Live Fire exercise numbers is a "3 or G", indicating that the exercise is a Gate–To–Live Fire exercise as shown in the first column "**Type**" of Table 3–10.

b. The next three characters under the "**Description**" columns are mnemonic for Gate–To–Live Fire (GTLF) exercise(s).

c. The fifth character under the "**Sequence**" column identifies the exercise sequence number within Gate–To–Live Fire exercise(s).

d. The sixth character under the "**Distractors**" column identifies any distraction the crew will experience during the firing of the exercise(s). Gate–To–Live Fire exercises default to a "1 or N" indicating no distractions for Gate–To–Live Fire exercise(s).

e. The seventh character under the "**Database**" column identifies the database environment for the exercise (ie; European or Desert). All Gate–To–Live Fire exercises default to a "0" indicating an European database.

f. The eighth character under the "**Visibility**" column identifies the visibility selections available for the exercise(s).

Use the information provided in Table 3–10 below and Table 3–13 through Table 3–20 to depict numeric or alpha–numeric labels of any Gate–To–Live Fire exercise(s).

Table 3–10. Gate–To–Live Fire Exercise Number Sequence of Characters

Type	Description	Description	Description	Sequence	Distractors	Database	Visibility
Gate	To	Live	Fire	Sequence	Default	Database	Visibility

g. Listed below are the initial and last exercise labels, followed by exercise numbers in each Basic Gate–To–Live Fire exercise.

- Gate–To–Live Fire Exercise: GTLF1N0U through GTLF4N4U
  33331101 through 33334141

3.20.4 ALPHA / NUMERIC LABEL FOR ADVANCED GUNNERY SKILLS EXERCISES

The Alpha/Numeric and Numeric Label for Advanced Gunnery Skill exercises are described in the following paragraphs:

a. The first character of all Advanced Gunnery Skills exercise numbers is a “4 or A”, indicating that the exercise is an Advanced Gunnery Skills exercise as shown in the first column “**Type**” of Table 3–11.

b. The second character of Advanced Gunnery Skills exercise number is located under the first “**Description**” column identifies the Advanced Gunnery Skills level selection for the exercise(s).

c. The third character under the second “**Description**” column identifies the System Management level selection for the exercise(s).

d. The fourth character of an Advanced Gunnery Skills exercise number is located under the third “**Description**” column identifies the Reticle Aim Status Condition level for the exercise(s).

e. The fifth character shown under the “**Sequence**” column identifies the unique Reticle Aim Status Condition for the exercise sequence within the System Management level.

f. The sixth character shown under the “**Distractors**” column identifies the distraction the crew will experience during the firing of the exercise(s).

g. The seventh character under the “**Database**” column identifies the database environment for the exercise (ie; European or Desert).

h. The eighth character under the“**Visibility**” column identifies the visibility selections available for the exercise(s).

Use the information provided in Table 3–11 below and Table 3–13 to Table 3–20 to depict numeric or alpha–numeric labels of any Advanced Gunnery Skills exercise(s).

Table 3–11. Advanced Gunnery Skills Exercise Number Sequence of Characters

Type	Description	Description	Description	Sequence	Distractors	Database	Visibility
Advanced	Skill Level	SM Level	RA Status	Sequence	Distractors	Database	Visibility

i. Listed below are the initial and last exercise labels, followed by exercise numbers in each Advanced Gunnery Skills exercise.

- Advanced Gunnery Skills: A11F1N0U through A34C9B7S
  41111101 through 43499279

3.20.5 ALPHA / NUMERIC AND NUMERIC LABEL FOR SUSTAINMENT EXERCISES

The Alpha/Numeric and Numeric Label for Sustainment exercises are described in the following paragraphs:

a. The first character of all Sustainment exercise numbers is a “5 or S”, indicating that the exercise is a Sustainment exercise as shown in the first column “**Type**” of Table 3–12.

b. The second character of Sustainment exercise number is located under the first “**Description**” column which identifies the Advanced Gunnery Skills level selected for the exercise(s).

c. The third character under the second “**Description**” column identifies the System Management level for the exercise(s).

d. The fourth character of an Sustainment exercise number located under the third “**Description**” column identifies the Reticle Aim Status Condition level for the exercise(s).

e. The fifth character under the “**Sequence**” column identifies the unique Reticle Aim Status Condition level for the exercise(s).

f. The sixth character shown under the “**Distractors**” column identifies the distractions the crew will experience during firing of the exercise(s).

g. The seventh character under the “**Database**” column identifies the database environment for the exercise (ie; European or Desert).

h. The eighth character under the “**Visibility**” column identifies the visibility selections available for the exercise(s).

Use the information provided in Table 3–12 below and Table 3–13 through Table 3–20 to depict numeric or alpha–numeric label of any Advanced Gunnery Skills exercise(s).

Table 3–12. Sustainment Exercise Number Sequence of Characters

Type	Description	Description	Description	Sequence	Distractors	Database	Visibility
Sustainment	Skill Level	SM Level	RA Status	Sequence	Distractors	Database	Visibility

i. Listed below are the initial and last exercise labels, followed by exercise numbers in each Sustainment exercise.

- Sustainment — S11F1N0U through S34C9B7S
  51111101 through 53499279

3.21 EXERCISE NUMBER DEPICTION

All Relocatable Advanced Gunnery Training System (AGTS) exercise numbers have either eight digits or an eight alpha–numeric character label. The eight columns of Table 3–8 through Table 3–12, alone with information found in Table 3–13 through Table 3–20, must be used to depict any AGTS exercise(s) number. The following pages demonstrate an example of how to depict an exercise number:

4	3	2	5	5	2	0	1
↕							
A	3	2	L	5	B	0	U

To depict the exercise number above, take the first digit of the exercise number and refer to the third column of Table 3–13 (below). Locate the number "4." Now, go across the table to the fifth column to find the Type "Advanced." Next, refer to Table 3–11's first column and locate the Type "Advanced." This indicates that all exercise(s) in the Crew Training Program (CTP) that began with the number "4" are Advanced Gunnery Skills Level exercise(s). This also indicates that the first number of all exercises will designate the type of exercise(s) (ie; 1 = Special Purpose, 2= Basic Pre–Live Fire, 3 = Basic Gate–To–Live Fire, 4 = Advanced Gunnery Skills or 5 = Sustainment exercise). If the alpha–numeric label for the exercise is desired, use the same procedures as discussed above. However, instead of referring to the third column of Table 3–13 refer to the fourth column of the table. Next, use the aforementioned procedures to depict the first number of the exercise to an alpha–numeric label. Turn to next page to depict the second digit of the exercise number above.

Table 3–13. AGTS Exercise Numbering First Character

Task	If The First Number Is:	Your Numeric Exercise Number Is:	Your Alpha–Numeric Label Is:	Type:
First:		1	E	Extension (Special Purpose)
Exercise		2	B	Basic (Pre Live Fire)
Type		3	G	Gate (Gate–To–Live fire)
	→	4 →	A →	Advanced
		5	S	Sustainment
		6	I	Individual skills (not used)
		7	P	Pre–Programmed (Platoon)
		8	C	Combat Platoon (not used)
		9	R	Reconn Platoon (not used)

4	**3**	2	5	5	2	0	1
	↕						
A	**3**	2	L	5	B	0	U

To depict the second character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–14 (below). Refer to the second character of the exercise number above "3." Move to the third column of Table 3–14 below to find the number "3." Verify that the number "3" in the third column of Table 3–14 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "3" from the third column that aligns with the number "4" in the second column. With this accomplished, go across to the fifth column and locate "Advanced Skill Level 3." Now, refer to Table 3–11's second column, first row and find the column heading "Skill Level." This indicates that the exercise will be fired in Advanced Skill Level 3 of the Crew Training Program since the second digit of the exercise number above is a "3." If the alpha–numeric label for the exercise is desired, use the same procedure discussed above, except refer to the fourth column of table below and use the above procedures to depict the second digit of the exercise to an alpha–numeric label. Turn to the next page to depict the third digit of the exercise number above.

Table 3–14. AGTS Exercise Numbering Second Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type:
Second:	First digit = 1	0	F	Orientation / Familiarization
Task or	First digit = 1	1	A	Acquisition / Manipulation
Skill	First digit = 1	2	C	CITV / Target Handover
Level	First digit = 1 →	3	I	IVIS (not currently supported)
	First digit = 1	4	A	OIP
	First digit = 1	5	C	Tank Table V – COAX
	First digit = 1	6	L	Long Range
	First digit = 1	7	E	Evasive Helicopter
	First digit = 1	8	K	Killer Tank
	First digit = 1	9	B	Boresight
	First digit = 2	2	P	Basic Pre–Live Fire
	First digit = 3 →	3	T	Gate–To–Live Fire
→	First digit = 4, 5 or 6	1	1	Advanced Skill Level 1
→	First digit = 4, 5 or 6	2	2	Advanced Skill Level 2
→	First digit = 4, 5 or 6 →	3 →	3 →	Advanced Skill Level 3
	First digit = 7, 8, or 9	1	B	Platoon Basic
	First digit = 7, 8, or 9	2	I	Platoon Intermediate
	First digit = 7, 8, or 9 →	3	A	Platoon Advanced

4	**3**	**2**	5	5	2	0	1
		↑					
		↓					
A	**3**	**2**	L	5	B	0	U

To depict the third character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–15 below. Refer to the third character of the exercise number above "2." Move to the third column of Table 3–15 below to find the number "2." Next, verify that the number "2" in the third column of Table 3–15 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "2" from the third column that aligns with a number "4" in the second column. With this accomplished, go to the fifth column and locate "Moving OV, Stationary Tgts." Now, refer to Table 3–11's third column, first row and find "SM Level." This indicates that the System Management (SM) level for the exercise will be moving ownvehicle with stationary targets since the third digit of the exercise number above is a "2." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of table below and use the aforementioned procedures to depict the third digit of the exercise to an alpha–numeric label. Turn to the next page to depict the fourth digit of the exercise number above.

Table 3–15. AGTS Exercise Numbering Third Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type
Third:	First digit = 1	0	A	Orientation / Familiarization
Task or	First digit = 1	1	M	Acquisition / Manipulation
SM Level	First digit = 1 →	2	V	CITV / Target Handover
	First digit = 1	3	V	IVIS (not currently supported)
	First digit = 1	4	G	OIP
	First digit = 1	5	X	Tank Table V – COAX
	First digit = 1	6	R	Long Range
	First digit = 1	7	H	Evasive Helicopter
	First digit = 1	8	T	Killer Tank
	First digit = 1	9	Z	Boresight
	First digit = 2 →	2	L	Basic Pre–Live Fire
	First digit = 3	3	L	Gate–To–Live Fire
→	First digit = 4, 5 or 6	1	1	Stationary OV, Stationary Tgts
→	First digit = 4, 5 or 6 →	2 →	2 →	Moving OV, Stationary Tgts
→	First digit = 4, 5 or 6	3	3	Stationary OV, Moving Tgts
→	First digit = 4 , 5 or 6	4	4	Moving OV, Moving Tgts
	First digit = 7, 8, or 9	1	D	Defensive
	First digit = 7, 8, or 9 →	2	O	Offensive
	First digit = 7, 8, or 9	3	C	Combined

4	**3**	**2**	**5**	5	2	0	1
			↕				
A	**3**	**2**	**L**	5	B	0	U

To depict the fourth character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–16 below. Refer to the fourth character of the exercise number above "5." Move to the third column of Table 3–16 below to find the number "5." Next, verify that the number "5" in the third column of Table 3–16 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "5" from the third column that aligns with a number "4" in the second column. With this accomplished, go to the fifth column and locate "Laser Range Finder Failure Applied." Now refer to Table 3–11's fourth column, first row and locate the Reticle Aim (RA) level for the exercise as a Laser Range Finder failure since the fourth digit of the exercise number above is a "5." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of table below and use the aforementioned procedures to change the fourth digit of the exercise to an alpha–numeric label. Turn to the next page to depict the fifth digit of the exercise number above.

Table 3–16. AGTS Exercise Number Fourth Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type
Fourth:	First digit = 1 →	1 – 9 →	1 – 9	Sequence
Sequence,	First digit = 2	2	F	Pre–Live Fire
Task or	First digit = 3	3	F	Gate–To–Live Fire
RA status →	First digit = 4, 5 or 6	1	F	Fully Operational Day Applied
→	First digit = 4, 5 or 6	2	T	Fully Operational TIS Applied
→	First digit = 4, 5 or 6	3	N	Fully Operational NBC Applied
→	First digit = 4, 5 or 6	4	S	Stabilization Failure Applied
→	First digit = 4, 5 or 6 →	5 →	L →	Laser RangeFinder Failure Applied
→	First digit = 4, 5 or 6	6	C	CITV Applied
→	First digit = 4, 5 or 6	7	G	Emergency Mode GAS Applied
→	First digit = 4, 5 or 6	8	M	Manual Mode GAS Applied
→	First digit = 4, 5 or 6	9	E	GPSE Applied
	First digit = 7, 8, or 9 →	1 – 9 →	1 – 9	Mission or Task (sequence)

4	**3**	**2**	**5**	**5**	2	0	1
				↕			
A	**3**	**2**	**L**	**5**	B	0	U

To depict the fifth character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–17 below. Refer to the fifth character of the exercise number above "5." Move to the third column of Table 3–17 below to find the number "5." Next, verify that the number "5" in the third column of Table 3–17 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "5" from the third column that aligns with a number "4" in the second column. With this accomplished, go to the fifth column and locate "Laser Range Finder Failure Unique." Now refer to Table 3–11's first column, fifth row and locate "Sequence." This indicates the Sequence Reticle Aim (RA) level for the exercise will be Laser Range Finder failure with no other malfunction since the fifth digit of the exercise number above is a "5" and it matches the fourth digit which is also "5." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of the table below and use the aforementioned procedures to change the fifth digit of the exercise to an alpha–numeric label. Turn to the next page to depict the sixth digit of the exercise number above.

NOTE

Because of the interchangeability of exercise selections (see page 5–3), the fifth character may not always match the fourth character of the exercise number as shown above. Although the fifth number in the example above does match the fourth number a "5", the fifth number could be (4, 5 or 6) depending on exercise sequence interchangeability with the fifth number during exercise selection processes.

Table 3–17. AGTS Exercise Number Fifth Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type
Fifth:	First digit = 2 →	1 – 9 →	1 – 9	Pre–Live Fire
Sequence,	First digit = 3 →	1 – 9 →	1 – 9	Gate–To–Live Fire
Task or →	First digit = 1,4,5 or 6	1	1	Fully Operational Day Unique
Malfunc– →	First digit = 1,4,5 or 6	2	2	Fully Operational TIS Unique
tions →	First digit = 1,4,5 or 6	3	3	Fully Operational NBC Unique
→	First digit = 1,4,5 or 6	4	4	Stabilization Failure Unique
→	First digit = 1,4,5 or 6 →	5 →	5 →	Laser RangeFinder Failure Unique
→	First digit = 1,4,5 or 6	6	6	CITV Unique
→	First digit = 1,4,5 or 6	7	7	Emergency Mode GAS Unique
→	First digit = 1,4,5 or 6	8	8	Manual Mode GAS Unique
→	First digit = 1,4,5 or 6	9	9	GPSE Unique
	First digit = 7, 8, or 9	0 – 9	0 – 9	Sequence within mission/task

4	**3**	**2**	**5**	**5**	**2**	0	1
					▲ ▼		
A	**3**	**2**	**L**	**5**	**B**	0	U

To depict the sixth character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–18 below. Refer to the sixth character of the exercise number above "2." Move to the third column of Table 3–18 below to find the number "2." Next, verify that the number "2" in the third column of Table 3–18 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "2" from the third column that aligns with a number "4" in the second column. With this accomplished, look across table to the fifth column and locate "Battlefield Distractions." Now refer to Table 3–11's sixth column, first row and find "Distractors." This indicates the exercise will have battlefield distractions since the sixth digit of the exercise number above is a "2." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of table below and use the aforementioned procedures to change the sixth digit of the exercise to an alpha–numeric label. Turn to the next page to depict the seventh digit of the exercise number above.

Table 3–18. AGTS Exercise Number Sixth Character

Task	**If the first number is:**	**Your Numeric Exercise number is:**	**Your Alpha–Numeric Label is:**	**Type**
Sixth: →	First digit = 4 thru 9	1	N	No Distractions
Distractors →	First digit = 4 thru 9	2 →	B →	Battlefield Distractions
/OIP	First digit = 1, 2, 3*	1	N	Default for these (except OIP)
	First digit = 1*	3 – 8	3 – 8	OIP Settings (OIP only)

* Note: For OIP Special Purpose exercises.

* Note: Distractions/OIP will be forced to a setting of 3.

4	**3**	**2**	**5**	**5**	**2**	**0**	1
						↑ ↓	
A	**3**	**2**	**L**	**5**	**B**	**0**	U

To depict the seventh character of the exercise number above, first locate the first digit of the exercise number "4" in the second column of Table 3–19 below. Refer to the seventh character of the exercise number above "0." Move to the third column of Table 3–19 below to find the number "0." Next, verify that the number "0" in the third column of Table 3–19 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "0" from the third column that aligns with a number "4" in the second column. With this accomplished, look to the fifth column and locate "European Unique." Now refer to Table 3–11's seventh column, first row and find "Database." This indicates the exercise will be fired with European database since the seventh digit of the exercise number above is a "0." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of table below and use the aforementioned procedures to change the seventh digit of the exercise to an alpha–numeric label. Turn to the next page to depict the eighth digit of the exercise number above.

NOTE

Because of the interchangeability of exercise and replication selection (see page 5–3), the seventh character could be a (0, 1, 2, or 3 for European database or 4, 5, 6, or 7) depending on replication sequence interchangeable processes.

Table 3–19. AGTS Exercise Number Seventh Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type
Seventh: →	First digit = 1 thru 9 →	0 →	0 →	European Unique
Database/ →	First digit = 1, 4, 5, 6	1	1	European Rep 1
Replication →	First digit = 4, 5, 6	2	2	European Rep 2
→	First digit = 4, 5, 6	3	3	European Rep 3
→	First digit = 1 thru 9	4	4	Desert Unique
→	First digit = 1, 4, 5, 6	5	5	Desert Rep 1
→	First digit = 4, 5, 6	6	6	Desert Rep 2
→	First digit = 4, 5, 6	7	7	Desert Rep 3

4	**3**	**2**	**5**	**5**	**2**	**0**	**1**
							↕
A	**3**	**2**	**L**	**5**	**B**	**0**	**U**

To depict the eighth character of the exercise number above, refer to the second column of Table 3–20 below. Locate the first digit of the exercise number above "4". Refer to the eighth character of the exercise number above "1." Move to the third column of Table 3–20 below to find the number "1." Next, verify that the number "1" in the third column of Table 3–20 aligns with the number "4" in the second column. If not, continue comparing the numbers in the third column with the numbers in the second column until you find a number "1" from the third column that aligns with a number "4" in the second column. With this accomplished, go to the fifth column and locate "Unlimited Day." Now refer to Table 3–11's eighth column of the first row and find "Visibility." This indicates the visibility for the exercise will be unlimited in day time since the eighth digit of the exercise number above is a "1." If the alpha–numeric label for the exercise is desired, use the same procedures discussed above, except refer to the fourth column of table below and use the aforementioned procedure to change the eighth digit of the exercise to an alpha–numeric label. This completes the exercise number depiction.

Table 3–20. AGTS Exercise Number Eighth Character

Task	If the first number is:	Your Numeric Exercise number is:	Your Alpha–Numeric Label is:	Type
Eighth: →	First digit = 1 thru 9	0	0	(Not Used)
Visibility →	First digit = 1 thru 9	1	U →	Unlimited Day
	First digit = 7, 8, 9	2	B	Before Morning/ Dawn (Plt only)
	First digit = 7, 8, 9	3	F	Fog (Platoon only)
→	First digit = 1 thru 9	4	H	Haze (Day Limited European)
→	First digit = 1 thru 9	5	D	Dust (Day Limited Desert)
	First digit = 7, 8, 9	6	R	Rain (Platoon only)
→	First digit = 1 thru 9	7	T	Thermal (Night Unlimited)
→	First digit = 1 thru 9	8	C	Clutter (Night Limited)
	First digit = 7, 8, 9	9	S	Snow (Platoon only)

3.22 INSTRUCTOR/OPERATOR STATION (IOS) INSTRUCTIONAL FEATURES

The I/O controls and guides the crew through training with the aid of instructional features located on the Instructor Operator Station (IOS) (Figure 2–1). The instructor is given flexibility in the means to train crews. The instructional features available to the instructor are divided into three groups: exercise control, performance monitoring, and exercise critique. The hardware required for exercise control and its use is discussed in Chapter 2.

3.22.1 PERFORMANCE MONITORING

The primary instructional features used by the I/O to monitor the crew's performance during an exercise are as follows:

a. The Commander's and Gunner's Monitors. The Commander's and Gunner's visual monitors permit the instructor to observe each crew member's current view of the scene as it is being viewed through the sight in use. As the Commander or Gunner moves to use a different sight, the scene on the monitor changes accordingly. Both the Commander's and the Gunner's views are presented simultaneously on separate monitors. The instructor uses these displays to detect errors in the crew's performance during the course of the training session for evaluation and critique.

b. The Display Terminal, provides the instructor with prompts for system log–on, training session initialization, exercise selection, and training termination procedures as described in Chapter 2. The exercise is displayed on the Situation Monitor during an exercise.

   From the Situation Monitor, the instructor can monitor:

   (1) Crew station switch positions

   (2) Operational modes

   (3) Current and past target engagements

   (4) Reticle lay errors

   (5) Current ownvehicle position

   (6) Performance results for specific situations

During an exercise, if the instructor observes consistent errors or patterns developing, the instructor should freeze the exercise and assist the crew.

3.22.2 EXERCISE CRITIQUE

The primary instructional features used by the Instructor/Operator (I/O) to critique training are as follows:

a. Situation Monitor – The Situation Monitor provides on screen performance data during and after exercise. Permits the I/O to print a hardcopy of the student's record. Main emphasis in critiquing from the Situation Monitor is placed on reticle lay for main gun rounds, number of rounds fired, and MISS/KILL status.

b. Performance Analysis – The Performance Analysis page (Figure 2–30) is selected by the I/O after printing the Situation Monitor data at the completion of the exercise. The main areas of concern on the Performance Analysis are target type, number of rounds fired at each target, number of hits or percent coverage, errors received in Target Acquisition and System Management, situation scores, overall computer recommendation, and critical average times, such as (time to identify the target, time to fire the first round at the target, and time to kill the target).

c. Instructor Notes – Any instructor notes taken during the conduct of training should be incorporated into the critique. Instructor notes answer the question "Why". (Why did the crew receive a high time to

fire? They were scanning out of sector when the target activated or the commander failed to designate second target.)

d. Other instructional features to aid the instructor in critiquing a crew's performance are:

(1) Instant Recall – Instructor has the ability to show the crew, through their sights, an instant recall of the last 120 seconds of their performance.

(2) Print – Prints Situation Monitor or Performance Analysis as selected.

(3) Print Shot Pattern (see page 2–86) – Prints a shot pattern which plots projectile impact of no more than two main gun rounds per target on a 3 mil by 3 mil graph. Main gun rounds are listed in the order targets were engaged.

(4) Session Summary (see page 2–90) – Provides the instructor with a summary of the crew's last training session. Provides a list of the exercises fired, the critical average times to ID, fire, kill, total rounds fired, number of targets engaged, total Acquisition and System Management errors, and the computer recommended grade for each exercise fired.

(5) Crew Record (see page 2–74) – Provides the instructor with a list of the last 100 exercises fired and computer recommended grade received for each exercise. Includes the number of main gun rounds fired, percentage of targets hit and killed, progress of crew, last time the crew or Commander fired, and number of computer – recommended exercises crew has fired. Enables instructor to determine crew's location in matrix.

3.23 PREPARATION FOR TRAINING

To properly prepare for a training session, instructor must gather available information concerning the crew's previous training performance. This should include any Instructor Notes from the previous session, Session Summary, Shot Pattern, Situation Monitor, Performance Analysis pages of all exercises fired during the last training session, and printed Crew Record. These records contain valuable information the instructor can use during crew prebrief. Prior to the prebriefing, the instructor should review and analyze these materials to understand the crew's current level of proficiency.

3.23.1 INSTRUCTOR PREPARATION

The Crew Record, if available, should be examined for names, vehicle number, and crew progression. The instructor should note the crew's present location in three scored areas (Target Acquisition, Reticle Aim, and System Management) to determine the crew's progress through the matrix. Finally, the instructor should examine the list of exercises and progress recommendations, to determine if the crew is experiencing difficulty with any specific type of exercise(s).

The instructor should review the Session Summary page from the crew's last training session to determine the following:

a. General problems experienced during training. The instructor examines the Session Summary for any trends affecting the crew's performance. Each exercise in the Session Summary should be examined for improvements or problems of average times, target hits, excessive ammunition expenditure, Target Acquisition, System Management errors, and progress recommendations.

b. Specific exercise problems. Instructor identifies problem exercises by the progress recommendations of the Session Summary and noting the number of times the crew has fired the specific exercise. Each problem exercise should be examined to determine the probable cause(s) of the crew's difficulties. Once the instructor has reviewed the exercise and identified problem areas, review of the exercise Performance Analysis is made to obtain further detailed information.

The Performance Analysis is the instructor's primary source of crew performance information. The exercise Situation Monitor, Shot Pattern, and Instructor Notes should be used with the Performance Analysis page. Grades for each situation should be examined to determine individual problem areas.

a. Target Acquisition – If scores are low in Target Acquisition, review ID times and possible reasons for problems. The instructor should then look for any acquisition errors.

b. Reticle Aim – If scores are low in Reticle Aim, examine crew's time to fire and kill for problem areas. The second item to review is the number of rounds fired and number of hits or percent of coverage on the target. The Performance Analysis will reflect the number of rounds fired to achieve a kill. Finally, review the Situation Monitor page for a specific exercise to determine accuracy of the crew's reticle lay for main gun rounds.

c. System Management – If System Management Scores are low, review the Performance Analysis page for System Management errors.

The instructor should be aware that Target Acquisition, Reticle Aim, and System Management are interdependent scoring areas. Each individual scoring area depends on the crew's performance in the other two areas. For example, if a crew's ID times are high, it will cause the crew's time to fire and kill to be high. In this case, not only will the crew's Target Acquisition score be low, but the Reticle Aim score will be low. The Shot Pattern and Instructor Notes give the instructor an excellent means of determining why or how the crew or commander had difficulty in a specific skill area. The I/O should determine the crew's needs and how they can improve. As an instructor becomes familiar with the AGTS scoring system, the I/O will be able to assess crew problems and understand the interrelationship of the data provided on these pages.

Once the instructor has determined the crew's level of proficiency or problem areas by analysis of the records, organize the materials for presentation to the crew. It is recommended that the instructor lay out all of the materials for the crew's viewing as the instructor presents the prebrief.

Preparation for the upcoming training session should then begin . First consider the unit's overall training requirements as directed by the Training Manager. Know the interval since the crew last trained on the AGTS; what program the crew is in, and their computer–reported progress. The instructor should take the crew's unique training needs into consideration. Past performance or present state of readiness could cause the instructor to select an exercise lower than the computer's recommendation. The instructor may decide that the crew is experiencing difficulty with a specific skill area and requires an exercise designed to develop that skill. A special purpose exercise is required if the crew is having problems in a particular skill such as Reticle Aim tracking or crew coordination. The instructor can select an exercise from the special purpose exercise deemed necessary

Regardless of the instructor's plan for the training session, the primary concern is maximizing effective training time for the crew.

3.23.2 CREW PREBRIEF

After the I/O has completed the preparation and the crew has arrived for training, the instructor will use the analysis to discuss areas of strength and weakness. The I/O will discuss areas of concern, as indicated by the crew's records, and address any strengths and weakness in crew's coordination. Emphasize the crew's areas of difficulty and recommend corrective action. Review the Crew Record prior to the start of the training session. The review should be brief and take the main areas of emphasis into consideration.

As the I/O progresses through a detailed briefing of the crew's records, the I/O should outline areas of concentration for up next training session. Stresses applicable safety measures and cover no smoking in training area, use of CVC helmets while in the crew station, and evacuation procedures. The I/O should caution the crew not to look directly into the in–use–sensors or practice dangerous habits on the AGTS (e.g., failure to place weapon system on SAFE between engagements, placing feet or arms on or under the main gun, etc.). At the

conclusion of the prebriefing, the I/O conduct a safety briefing prior to the crew's entrance into the crew station. Reiterate during the safety briefing, the importance of emergency exit procedures and wearing CVC helmets while in the crew station.

3.24 CONDUCT TRAINING

The following procedures describe suggested scenario for instructor/operator actions for AGTS crew training.

3.24.1 ACTIONS BEFORE RUNNING THE FIRST TRAINING EXERCISE

After the instructor has prebriefed the crew, direct the crew to enter the crew station and prepare for training. The instructor initializes the training session as outlined in Chapter 2. After initialization, conduct a communications check with the crew. The instructor selects "Preparation of Crew Stations exercise" from the list of Special Purpose exercises. This exercise can be selected by exercise content or exercise number and permits the crew to align all switches and controls to their proper operating positions and permits the crew to boresight the main gun and machine gun if required. During crew station preparation, the instructor should monitor the crew's actions for correctness. Once the crew has completed crew station preparation exercise, the instructor proceeds with the training session. The instructor reads Crew Instructions to the crew, checks for switch errors at the display terminal and UNFREEZES the exercise. The I/O will FREEZE the exercise for immediate performance critique, as required, and UNFREEZE the exercise to continue upon completion of the critique. Upon completion of the exercise, the I/O critique the crew on their overall performance. To make the decision on exercise selection, the instructor must thoroughly understand the considerations involved in, and the methods of, exercise selection.

As stated, the instructor has the option of selecting exercises according to the crew's specific needs. As shown on the Instructor Operator Display (IOD) menu, the I/O may select exercises by:

a. Recommended – The computer assesses the crew's matrix position, evaluates the results of the last two computer recommended exercises, verifies results with matrix movement rules for the crew's specific level of training, and selects the next exercise for the crew. The I/O will either accept or, based on assessment of the crew's performance, reject the exercise.

b. Exercise Content – The I/O may select an exercise based on the exercise content. The exercise content is derived from the exercise description elements including ownvehicle motion, target motion, target type, target range, crewman firing, sight selection, visibility conditions, and vehicle distractions.

c. Exercise Number – The I/O may select an exercise by exercise number based on prior knowledge of the exercise or the list published in Chapter 5 of this manual. Table 5–4 through Table Table 5–9 provide exercise descriptive titles and numbers for all special purpose, basic gunnery, advance gunnery and sustainment exercises.

The ability to select a particular exercise during the course of training gives the instructor the option for the crew to continue training at their current pace or, if they are experiencing difficulty in a specific skill area, to select an exercise that allows the crew to practice that skill prior to continuing training at current skill level. This exercise may be a special purpose or a lower level gunnery exercise as selected from one of the lower skill areas in the training matrices.

Although the I/O has the option of selecting an exercise other than that recommended by the computer, this recommendation will not affect the crew's matrix progression. Letter grades are awarded when selecting an exercise by content or exercise number instead of progress recommendations.

3.24.2 ACTIONS DURING THE TRAINING EXERCISE

Once the instructor has selected a training exercise based on computer recommendation, the I/O monitors the crew's performance during the exercise and provides the appropriate driver and loader responses to the com-

mands from the tank commander. The following scenario depicts the sequence of events in a typical AGTS training exercise:

a. Select an exercise by computer recommendation in the environment desired, examine exercise content, and ensure it is the desired exercise.

b. Read exercise instructions to the crew and answer all questions.

c. Ensure the crew has achieved the correct switch lineup by directing them to correct any pre–exercise switch errors as displayed on the Display Terminal.

d. UNFREEZE the exercise. Be prepared to take notes, and scan the Situation Monitor for problems. Monitor the crew over the intercom to determine if they null drift. If not, direct them to do so.

e. Ensure Commander defines tank's sector of responsibility by identifying left, right limits, and center of sector. Assist as required.

f. Scan Commander's monitor to verify if commander is using the CITV to search for targets.

g. Scan Gunner's monitor to determine if GPS is in 3X. If not, direct gunner to change to 3X.

h. Check Situation Monitor to determine the following:

   (1) Time remaining to target appearance, direction, and type.

   (2) Commander has control of turret (optional).

   (3) All switch positions are correct.

i. Monitor intercom for fire command and prepare to move tank into position. Scan Commander's and Gunner's monitor's to determine if Commander is searching for target using CITV, or UVB's if the CITV is inoperative, if the Gunner is assisting with GPS in 3X.

j. Check Situation Monitor to ensure targets appear in Commander's field of view. If not, the Commander is out of sector, and should be directed back into his original sector. It may be necessary to stop the exercise to redefine the crew's sector of responsibility.

k. Upon hearing the Commander's fire command:

   (1) Move tank to a hull down position by pressing ENFILADE/DEFILADE movement key or selecting ENFILADE/DEFILADE icon on screen using left button on mouse at IOS. When directed by Commander.

   (2) Scan Gunner's monitor to determine that Gunner is looking through GAS, and as it clears, announces "DRIVER STOP."

   (3) Scan Commander's monitor to determine if Commander is laying the gun on or near target(s) using CITV.

   (4) Scan Situation Monitor to determine if Gunner has correct ammunition indexed.

   (5) Scan Gunner's monitor to determine if Gunner has changed to 10X and is looking through the GPS.

   (6) Listen for Gunner to announce "identified". At this time, Gunner should be in control of turret. (If Gunner cannot identify target(s), listen for Commander to announces "from my position.

(7) Scan Situation Monitor to determine if Gunner has lased to target(s) and range is correct.

(8) Scan Commander's monitor to determine if Commander changed to the GPSE or continued to use CITV or UVB's.

l. Watch Gunner's monitor to determine that:

(1) Gunner has target in view.

(2) If moving, Gunner tracks target(s) smoothly prior to lasing.

(3) The Gunner lases and receives no multiple returns.

(4) The ready to fire symbol appears.

m. Listen for Commander to announce "fire." (If Gunner does not identify the target, that Commander announces "on the way.")

n. View Gunner's monitor to determine if Gunner makes a correct final lay of the gun.

o. Listen for Gunner to announce "on the way."

p. Watch Gunner's monitor to determine if target was hit or missed. Check Situation Monitor to determine hit/miss and lay error.

q. Listen for crew's sensing and Gunner's adjustment announcements. View Gunner's monitor for proper sight adjustment.

r. When target(s) are killed, listen for Commander to announce "Target, cease fire – driver back up."

s. Press ENFILADE/DEFILADE movement key, or select ENFILADE/DEFILADE icon, and listen for the Commander to announce "driver stop."

3.24.3 ACTIONS AFTER THE TRAINING EXERCISE

Upon completion of each exercise, instructor provides crew with a brief critique of their performance. Using situation monitor on the Display Terminal, instructor informs crew of their good and bad reticle lays for main gun rounds. Also, the number of rounds fired and the number of hits or percentage coverage on area targets should be discussed. The I/O should refer to the notes recorded during the conduct of the exercise to reinforce the information contained on the Situation Monitor, the Shot Pattern, and the Performance Analysis. Using the Performance Analysis, I/O critiques crew on their exercise times, specifically addressing time standards and crew's average time for target ID, time to fire, time to kill, and high and low times for each area. The I/O then informs crew of total errors for the exercise and errors by situation. Finally, I/O should tell crew how they scored by situation and computer recommendation for exercise. The instructor should use exercise playback to reinforce major teaching points as required. The instructor should always refer to any notes taken during exercise to further explain discrepancies in crew's performance and highlight their strengths. A good critique must not only tell crew what they did right and wrong, but HOW TO IMPROVE!

For subsequent exercises, instructor repeats the during and after exercise procedures. The I/O's ability to monitor and effectively critique the crew's performance is one of the most essential elements of the AGTS training system. The instructor must be conscientious and alert throughout the course of each training session. The benefit the crew receives from their training sessions depends mainly on the instructor.

3.24.4 CREW SESSION DEBRIEF

After the crew has completed their last exercise and has received their critique, instructor should select and print Session Summary. I/O should then direct crew to power down crew station and exit the trainer. Instruc-

tor will terminate training and organize records for crew debriefing. During crew debriefing, I/O should follow the same record analysis procedure described in Preparation for Training. The instructor should will review his observations with the crew, identifying areas of strength and weakness. Emphasis should be placed on areas of difficulty, with reference to specific problems using the Performance Analysis, Situation Monitor, Shot Pattern, and Instructor Notes. Discussion of corrective action or methods of improving their performance should be detailed and constructive. Finally, the instructor should inform crew of what to expect during next training session.

3.25 RETENTION OF RECORDS

Once the training session is complete and the crew has been debriefed, the instructor should take the crew's training records from the most recent training session and places them on file for reference. This ensures that the most current information available will be used in the preparation for the crew's next training session.

SECTION II. Platoon Mode Training and Scoring Criteria

3.26 INTRODUCTION

The purpose of this section is to provide detailed design guidance for the Platoon Training Program for the M1A2 SEP Relocatable Advanced Gunnery Training System (AGTS).

This section defines the tasks to be trained, performance measurement system and the design constrains for each exercise. It provides the exercise title, scope, and instructions for each training scenario. The descriptive title summarizes the task to be trained. The scope provides the conditions statement of the specific learning objective including situation type, ownvehicle status, and target type, motion, and range. The tasks and subtasks to be performed are determined from these conditions. The instructions list the standards to be applied. A sequence of events is also provided.

The Platoon Training Program offers pre–programmed exercises based on the Tank Gunnery tasks, conditions, and standards of ST 17–12–1A2. Platoon Training Program also provides Combat – free maneuver – versions of the pre–programmed Platoon exercises. Performance measurement of crew duties performed during training in platoon tasks is based on the procedural aspects of target acquisition, reticle aim, and system management.

Platoon exercises are grouped into three levels of difficulty: basic, intermediate, and advanced. In each level the platoon is assigned a tactical mission and is required to practice direct fire distribution and control during the execution of that mission.

The platoon is objectively evaluated on the number of targets killed, with an aggregate score based on the Gunnery Scoring from Table XII in ST 17–12–1A2 (i.e. 70% of the target presented to the platoon must be killed by the platoon during the exercise for the platoon to pass the exercise). This evaluation is completed by the computational system. The Platoon Instructor makes a subjective evaluation, similar to the Tactical Score from Table XII in ST 17–12–1A2. The results of the computational system evaluation are provided in performance analysis displays at the Instructor/Operator station and are stored in the Platoon Student Record, which is accessed via the Training Management System. The results of the Platoon Instructor's subjective evaluation are presented to and discussed with the platoon members at the AAR.

Platoon exercises resemble crew exercises in that targets are grouped into situations for presentation and exercise control. The number of targets in a situation varies based on the level of difficulty of the exercise. The total number of targets per situation ranges from 4 to 12. Each exercise will contain between 20 and 60 targets grouped into no more than 11 situations.

The platoon leader will receive a company operations order which defines the context of the exercise. The platoon will then execute the assigned mission as described in the company operations order to provide a means to practice direct fire control and distribution. The platoon exercises are designed to present the tactical situation depicted in the company operations order and are to be executed by the training platoon in accordance with the instructions in the company operations order.

The Platoon Training Program trains platoon gunnery tasks and procedures using scenarios for both offensive and defensive tactical operations. The scenarios provide opportunities for platoon command and control procedures, fire distribution planning and control. Tank fire control malfunctions and battlefield distractions may be experienced. During scenarios, crews use precision gunnery procedures while engaging the target array in the role of platoon leader, platoon sergeant, wingman 1, and wingman 2. Scenarios to exercise a three tank platoon are also provided.

3.27 PLATOON GUNNERY TASKS

a. Conduct combat operations.

b. Conduct a reconnaissance.

c. Prepare a fire plan.

d. Select and control fire distribution patterns.

e. Issue platoon fire command.

f. Defend a battle position.

g. Provide overwatch/support by fire.

h. Bound to a subsequent battle position.

i. Conduct movement to contact.

j. Move tactically.

k. React to enemy contact.

l. Attack and seize an objective.

m. Disengage from the enemy.

n. Report actions to the commander.

o. Conduct a hasty defense (limited).

p. Consolidate and reorganize.

q. Conduct a hasty attack.

r. Conduct a delay (limited).

s. Conduct action in the assembly area.

t. Conduct ammo transfer between vehicles.

u. Conduct operations with a missing vehicle.

v. Operate [a subset of] the Tactical Display (Currently not supported on the M1A2 SEP AGTS)

w. Perform duties as a wingman, platoon sergeant, or platoon leader IAW FM 17–15, Tank Platoon and ST 17–12–1–1A2.

3.28 PLATOON TRAINING PROGRAM

3.28.1 PLATOON EXERCISES

A total of 56 exercises supporting day and night conditions are available. Twenty–four of these platoon exercises are generated on a woodland terrain database and may have no more than 10 target vehicles active at any time. Thirty–two of these platoon exercises are generated on desert terrain databases. Offensive, defensive, and combined missions are provided. Detailed exercise descriptions, target summaries, operations orders, and operations overlays for the 56 platoon exercises are provided in the Volume 2 of the TSUH.

3.28.2 PLATOON SELECTION BY NUMBER

Platoon exercises are selected by number by the Platoon Instructor at the initialization page. The Platoon Instructor/Operator can enter either the exercise alpha/numeric label or its numeric equivalent. Alpha/numeric labels begin with a letter. Progression for platoons is recommended to be in numeric sequence from Basic to Intermediate to Advanced platoon exercises; however, since platoon exercise selection is, I/O select by number, the I/O retains the ability to select any platoon exercise at any time in order to train a desired task or mission at the desired skill level.

3.29 PLATOON PERFORMANCE MEASUREMENT

Platoon exercise scoring is limited to the percentage of targets killed within the time allotted for the situation. This is the ‘Gunnery’ score and passing a platoon exercise is defined as killing 70 % or more of the direct fire targets presented to the platoon. Gunnery error scoring at the Platoon level is limited to firing on friendly vehicles or helicopters. Platoon tactical or procedural cuts are assessed by the I/Os and discussed with the platoon members at the AAR.

3.29.1 PLATOON TIME TO KILL

Time to kill begins at full target exposure (3.5 sec. after target activation). Time to kill ends at the minimum target exposure for the situation as defined under exercise constraints. An area target is scored as killed when 50% coverage is achieved within the minimum target exposure time. At the minimum target exposure time, the number of targets killed is summed and recorded for scoring purposes.

Target paths will have about 3.5 seconds of remaining travel time to allow for hide positions after the minimum target exposure time is reached. If a target is engaged or killed beyond the minimum target exposure time, the kill is not included in the aggregate score.

Targets beyond a direct fire trigger line that has been described in the operations order and on the operations overlay should not be engaged with direct fire weapons. If a target in such a situation is engaged with direct fire, no hit of kill credit shall be assessed for scoring. The aggregate score (70% or more killed) is not influenced by these situations. Targets in these situations are not included in the total targets presented and are not included in total kills calculations of the aggregate score.

3.29.2 PLATOON GUNNERY ERRORS

The one error handled as part of the Gunnery score is firing on a friendly vehicle or aircraft. One error is scored for each crew station engaging one or more friendly targets, to a maximum of four errors per situation. The error is reported in the hit/miss summary. The percentage deduction must be reported on the PFA page with the aggregate score. Each situation in which firing at a friendly occurs results in a 5% deduction from the total (aggregate) score. The hit plate and results of round impacts on platoon vehicles are active, however rounds impacting platoon vehicles are not included in the Gunnery score.

3.29.3 PLATOON OPENING TIME

Platoon opening time is the shortest time to fire for any vehicle in the platoon. Time to fire begins when the first target in a situation is fully exposed (3.5 seconds following target activation) and ends when any ownvehicle fires a round or a burst. Platoon opening time is trigger by engagement of a target (within 20 mils of a point target or 100 mils of a area target)

3.29.4 PLATOON HIT ON OWNVEHICLE

Ownvehicle can be killed in defensive exercises and cannot be killed offensive platoon mode exercises. The malfunctions scored and percentage allotted to each type is as in Table 3–21 Results of Hit on Ownvehicle.

Table 3–21. Results of Hit on Ownvehicle

Percentage	Malfunction Type
20%	Random gun tube bend error shall result in a MRS error of +/− 1.5 mils in azimuth and +/− 1.5 mils in elevation. MRS error due to a direct hit affects the GPS and TIS reticles.
10%	Computer lockup (failure) shall prevent the computer system ballistic solution or super elevation. Computer lockup shall leave the LRF operational.
10%	GPS symbology failure.
20%	Stabilization failure shall require emergency mode operation.
20%	GPS/TIS failure shall require use of the GAS and GPSE/CITV.
20%	No degradation.

3.29.5 PLATOON PROGRESSION

Progression for platoon training is recommended to be in numeric sequence from Basic to Intermediate to Advanced platoon exercises; however, since platoon exercise selection is, I/O select by number, the I/O retains the ability to select any platoon exercise at any time in order to train a desired task or mission at the desired skill level. The platoon instructor may choose to use either pre–programmed and combat version of a specific exercise in succession or may choose to use only pre–programmed or only combat versions. Decisions on the sequence of training are based on knowledge of the platoon's training needs, experience, strengths, weaknesses, and the availability of other training methods. Due to the number of variations possible, the platoon instructor may select any of the available exercises in any order.

3.29.6 PLATOON BASIC LOAD OF AMMUNITION

For AGTS platoon exercises, each M1A2 SEP tank will begin each exercise with a full basic load of ammunition defined as follows:

a. 42 Main Gun Rounds
   (1) One round SABOT (M829) is loaded in the main gun.
   (2) Ready Rack stores 17 rounds – 9 SABOT (M829), 6 HEAT (M830), and 2 MPAT (M831A1).
   (3) Semi–Ready Rack stores 18 rounds – 10 SABOT (M829), 6 HEAT (M830), and 2 MPAT (M831A1).
   (4) Hull stores 6 rounds – 3 SABOT (M829) and 3 HEAT (M830).

b. 3200 Coax rounds.

c. 12 smoke grenades (2 salvos of 6).

3.30 PLATOON EXERCISE NUMBERING

Platoon exercises are identified by an alpha–numeric code and a numeric code. The numeric code is used by software and in exercise generation. The alpha–numeric code is used by the I/O for exercise selection, records, and on all I/O displays. The eight characters are as follows:

The definition of each character is as follows:

- The first character defines the type: Pre–programmed
- The second character indicates skill level: Basic, Intermediate, Advanced
- The third character indicated mission type: Defense, Offensive, or Combined
- The fourth and fifth characters are numbers and indicate the exercise sequence number
- The sixth character indicates the status of no distractions or battlefield distractions
- The seventh digit is the database: Woodland or Desert
- The eighth character indicates the visibility condition

Table 3–22. Platoon Exercise Numbering

Type	Skill Level	Mission	Sequence	Sequence	Distractors	Database	Visibility

For selection by number, Characters 1 through 5 are required. Characters 6, 7, and 8 may be entered by the Instructor/Operator or may be set to default by software. The default for the sixth character is 1 (no distractions). The default for the seventh character for M1A2 SEP is 0, Woodland, if available, otherwise, the default is 4, Desert. The default for the eighth character is always 1 (day unlimited). Conversions to numeric equivalents for the exercise data file are shown in Table 3–22 Continued below.

Table 3–22. Platoon Exercise Numbering (Continued)

Character	Alpha/Numeric Version	Meaning	Numeric Version
First:	P	Pre–Programmed Platoon	7
Second:	B	Platoon Basic	1
Skill Level	I	Platoon Intermediate	2
	A	Platoon Advanced	3
Third:	D	Defensive	1
Mission	O	Offensive	2
	C	Combined	3
Fourth: Sequence	0 – 9	Sequence number	0 – 9
Fifth: Sequence	1 – 9	Sequence number	1 – 9
Sixth:	N	No Distractions	1
Distractors	B	Battlefield Distractions	2
Seventh:	0	Woodland	0
Database	4	Desert	4
Eighth:	U	Unlimited Day	1
Visibility	B	Before Morning Nautical Twilight	2
	F	Fog	3
	H	Haze (Woodland Only)	4
	D	Dust (Desert Only)	5
	R	Rain	6
	T	Thermal (Night Unlimited)	7
	C	Clutter (Night Limited)	8
	S	Snow	9

3.31 OPORDS WITH OVERLAYS

Company level operations orders are supplied for all of the platoon exercises. These operations orders will specify the company scheme of maneuver and assign responsibilities and directives to the platoon as to how to conduct the exercise. Each operations order will be accompanied by an operations overlay which will contain the company graphics and control measures that are needed for the platoon's operation during the platoon exercise.

The operations orders and overlays will be contained in the platoon volume of the TSUH. Also contained in the platoon TSUH will be an exercise description to assist in conducting and controlling the exercise.

3.31.1 SCOPE/PREVIEW PAGE AND INSTRUCTIONS PAGE

The Platoon Instructions will be the legacy instructions for exercises that are products of previous programs and will be generated for the eight new platoon basic exercises.

3.31.2 TARGET EXPOSURE TIMES

Minimum Target Exposure is set by situation based on the visibility conditions and the type of situation. Visibility conditions are set in the exercise number. The type of situation is set by the situation attribute in the exercise file. Minimum Target Exposure time is as follows:

- Offensive situations: 50 sec. day 60 sec. night
- Defensive situations: 30 sec. day 40 sec. night

3.31.3 EXERCISE CONSTRAINTS

The following target constraints will apply to exercise design for the Platoon Training Program:

a. There may be delayed targets within a situation

b. There are a minimum of five direct fire target situations.

c. No friendly vehicles or helicopters will be placed within 20 mils of any target.

d. A maximum of 10 targets visible at any time while using a woodland terrain database.

e. No more than 60 second delays between targets within the same situation shall occur.

f. In Platoon exercises the initial target will be fully exposed within 3.5 seconds of its activation.

g. No target will appear to float above the terrain, except for helicopters.

h. No vehicular target will abruptly appear or disappear when viewed through a high power sight during pre–programmed platoon exercises.

3.32 PLATOON RECORDS

Records of student performance data are provided for reference in preparation of training pre–briefings. Student records store crew training data; platoon records are stored separately. The following data is stored:

Platoon Crew Record:

- Platoon ID
- Exercise number
- Date completed
- Vehicle targets presented for the platoon
- Troop targets presented for the platoon
- Vehicle targets killed by each crew
- Troop targets killed by each crew
- Main gun rounds fired by each crew
- Coax rounds fired by each crew
- Aggregate platoon gunnery score

Platoon Record:

- Unit Number
- Platoon ID
- Exercise Number
- Date completed
- Total Vehicle targets presented to the platoon
- Percentage of Vehicle targets killed
- Total Troop targets presented to the platoon
- Percentage of Troop targets killed
- Aggregate Platoon Gunnery Score
- Platoon Instructor’s Pass/Fail Tactical Score

3.33 INSTRUCTIONAL SUPPORT FEATURES

3.33.1 PLATOON SITUATION MONITOR

The Situation Monitor display page (see Figure 2–28) is the same as for crew mode training, except seconds to next situation is not available to Platoon I/O.

3.33.2 PLATOON PERFORMANCE ANALYSIS

The Performance Analysis display page (see Figure 2–30) is similar to the crew mode performance analysis page, except a column is provided for each member of the platoon indicate targets engaged during the training exercise. The performance will print at each crew station when the I/O presses the Display Select key on the terminal keyboard or selects the Display Select icon on the Graphic Users Interface keyboard (see Figure 2–27).

3.33.3 PLATOON SHOT PATTERN

The Platoon shot pattern is the same as the Crew shot pattern (see Figure 2–42).

CHAPTER 4
TRAINING MANAGER FUNCTIONS

4.1 GENERAL

The traditional role of the unit training manager is to manage the aspects of the Army's training system to support individual and collective training of soldiers in their units. Training managers will include the Battalion/Squadron Commander and Company/Troop Commanders. The managers are assisted by assigned Battalion/Squadron and Company/Troop officers, senior noncommissioned officers, and unit master gunners. According to "How to Manage Training in Units," FM 25–2, the unit training manager's primary responsibilities are:

a. Conduct long–range and short–range planning for unit training
b. Program training resources
c. Program training schedules
d. Conduct unit collective training
e. Conduct unit Mission Training Plan evaluations

The introduction of the Advanced Gunnery Training System (AGTS) offers the training manager a greater flexibility with the training program. The training manager has the capability of developing and sustaining crew gunnery proficiency between the live fire gunnery qualification tables without expending valuable resources such as fuel, ammunition, and range time. In addition, the AGTS permits the training manager to assess the unit's proficiency and therefore, concentrate on individual, crew, and unit performance.

The AGTS creates unique challenges for the training manager. The training manager must thoroughly understand the AGTS training system and the considerations involved in its integration into the unit's training program. The success of the AGTS and the training derived from it is partially due to the effectiveness of the training manager. The training manager is responsible for the following AGTS activities:

a. Integration of the AGTS into the unit training program
b. Crew/Unit Scheduling
c. Monitoring of Crew Progress
d. Standardization of Training
e. AGTS Instructor/Operator Proficiency

4.1.1 INTEGRATED TRAINING PROGRAM

The mission of the AGTS is to develop individual and crew (Commander or Gunner) gunnery skills to a level of proficiency that, along with minimum training with other crew members, meet the established standards. The training manager ensures the success of this mission by the proper integration of the AGTS into the unit training program. There are two aspects of this integration the training manager must consider: (1) Initial integration and (2) Continued or sustained integration of the AGTS.

4.1.2 INITIAL AGTS INTEGRATION

To maximize the effectiveness of the AGTS, the initial integration requires a period of concentrated crew training. This training is designed to allow the crew to adjust to the trainer and to rapidly increase gunnery proficiency to.

TRAINING MANAGER FUNCTIONS

4.1.3 SUSTAINED AGTS INTEGRATION

Once initial trainer integration is complete, the training manager must effectively integrate the AGTS into the unit's annual gunnery training program. As with any training device, the AGTS does not provide all the answers to the unit's training problems. Its potential is only realized when it is used in concert with other training vehicles within the unit's training program, such as:

a. Other Training Devices
b. Tank Crew Gunnery Skills Test (TCGST)
c. Full Crew Drills
d. Tank Crew Proficiency Course (TCPC)
e. Annual and Semiannual Gunnery Qualification
f. Platoon Evaluation Exercises
g. Mission Training Plan (MTP)

4.1.4 TRAINING MANAGEMENT

The training manager must manage the AGTS training system effectively for it to be successful, and bears the responsibility for the conduct and implementation of the unit's training program. In this capacity, the training manager makes the decisions as to crew composition, training, and location within the training matrices.

Once the Senior I/O has assessed the unit's performance level, the I/O decides if a specific crew requires additional training. These exercises may be manually selected by the instructor or the Senior I/O may decide to manually relocate the crew to a different position within the matrices. The decision should only be made by the Senior unit training manager, or Battalion/Squadron Commander, after careful consideration.

Another time crew relocation is used is after a crew has reached sustainment. Considerations in the positioning of the crew involves the crew's performance assessment during matrix training, after gunnery qualification, and on evaluation exercises. The final positioning of the crew within the matrices should be in an area of demonstrated weakness.

Training manager's are responsible for crew record modifications and crew relocation when turbulence within a unit occurs. Manager's may be required to change commander's or gunner's names, repositioning crew(s) within training matrix, delete crew record from training matrix, print copies of crew records, or restore crew records. These options can be accomplished following the steps:

4.1.5 TRAINING MANAGER'S LOG–IN

The training manager accesses the Manager's log–in account by using the terminal keyboard at Instructor/Operator Station (IOS).

a. At IOS, observe that the log–in prompt is displayed on the terminal monitor screen, and "log–in" field is highlighted (see Figure 2–17).
b. Using the IOS terminal keyboard, enter "manager" in the log–in field and press the Return or Tab key.
c. Enter the manager's account password and press the Return key, or use the left mouse button to select the "OK" prompt.
d. Observe that TRAINING MANAGEMENT SYSTEM display (see page 2–76) appears on the terminal screen.
e. This completes Training Manager's Log–in procedure.

4.1.6 MANAGER'S CREW/PLATOON NAME MODIFICATION

This procedure describes the required steps to change a crew member(s) name on the AGTS Crew Records while logged–in to training manager's mode.

TRAINING MANAGER FUNCTIONS

a. Ensure Training Manager's Log–in Procedures have been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select "Record", "Crew or Platoon List" option at top of the Training Management System display page (see page 2–76).

c. Using left mouse button, double click on desired record listed on the Student_List_Dialog_popup display.

d. Enter new crew member's name(s).

e. Press Return key on terminal keyboard after each entry.

f. Select "File", "Save" options.

g. Select "File", "Exit" options and observe that "Exit Training Management?."

h. Select "OK", observe that login display appears.

i. This completes Crew(s) Name Modification Procedures.

4.1.7 MANAGER'S CREW VEHICLE(S) NAME MODIFICATION

This procedure describes the required steps to change vehicle name on AGTS crew record(s) while logged–in to training manager's mode.

a. Ensure Training Manager's Log–in Procedures have been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select "Record" ,"Crew" option at top of the Training Management System display page (see page 2–76).

c. Using left mouse button, double click on desired record listed on the Student_List_Dialog_popup display.

d. Enter new vehicle ID in "Vehicle ID" field.

e. Press Return key on terminal keyboard. Select "OK" from "Rename Student Record xxxx" popup confirmation prompt.

f. Select "File", "Exit" options and observe that "Exit Training Management?."

g. Select "OK", observe that login display appears.

h. This completes Vehicle(s) Name Modification Procedures.

4.1.8 MANAGER'S CREW MATRIX REPOSITIONING

This procedure describes the required steps to reposition a crew within the AGTS matrix.

a. Ensure Training Manager's Log–in Procedures have been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select "Record" ,"Crew" option at top of the Training Management System display page (see page 2–76).

c. Using left mouse button, double click on desired record listed on the Student_List_Dialog_popup display.

d. Using left mouse button, select new "Program" level , or new "System Mgt" level or new "Reticle Aim" level (see page 2–78) as desired.

e. Use left mouse button and select "Manager", "Apply Matrix Changes" option (see page 2–80).

f. Select "File", "Save" options (see page 2–76).

g. Select "File", "Exit" options and observe that "Exit Training Management?."

h. Select "OK", observe that login display appears.

i. This completes Manager's Crew Matrix Repositioning Procedure.

TRAINING MANAGER FUNCTIONS

4.1.9 MANAGER'S CREW PRINT UNIT SUMMARY

This procedure describes the steps required to print a Crew, Platoon, Company, or Battalion summary.

a. Ensure Training Manager's Log–in Procedures has been accomplished.

b. Use left mouse button and select "Record" ,"Crew " option at top of the Training Management System display page (see page 2–76).

c. Using left mouse button, double click on desired record listed on the Student_List_Dialog_popup display.

d. Select "File" ,"Print Summary for" option, then choose "Current Crew or Current Platoon or Current Company or Current Battalion" options at top of the Training Management System display (see page 2–76) options.

e. Select "File", "Exit" options and observe that "Exit Training Management?."

f. Select "OK", observe that login display appears.

g. This completes manager's print unit summary Procedure.

4.1.10 MANAGER'S PLATOON PRINT UNIT SUMMARY

This procedure describes the steps required to print a Crew, Platoon, Company, or Battalion summary.

a. Ensure Training Manager's Log–in Procedures has been accomplished.

b. Use left mouse button and select "Record","Platoon" option at top of the Training Management System display page (see page 2–76).

c. Using left mouse button, double click on desired record listed from the Platoon_List_Dialog_popup display.

d. Select "File" ,"Print Summary for" option, then choose "Current Crew or Current Platoon or Current Company or Current Battalion or Todays Platoon Records" options at top of the Training Management System display (see page 2–76) options.

e. If you desire to print platoon crew data, use left mouse button and double click on the desire platoon exercise from the "Crew Records" list.

f. Observe that "PLATOON CREW DATA" display appears on terminal screen.

g. Select "File" ,"Print Summary for" option, then choose "Current Crew" options at top of the Training Management System display (see page 2–76) options.

h. Select "File", "Exit" options and observe that "Exit Training Management?."

i. Select "OK", observe that login display appears.

j. This completes manager's print unit summary Procedure.

4.1.11 MANAGER'S CHANGING SYSTEM PASSWORD

This procedure describes the steps required to change the manager's password.

a. Ensure Training Manager's Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select "Manager" "Change Password" option at top of the Training Management System display page (see page 2–80).

c. Enter old manager's password and press Return key.

d. Enter new manager's password and press Return key.

e. Retype new password and pressing Return key.

f. Select “File”, “Exit” options and observe that “Exit Training Management?.”

g. Select “OK”, observe that login display appears.

h. This completes Change Password Procedure.

4.1.12 MANAGER’S CHANGING SYSTEM TIME

This procedure describes the steps required to set system clock.

NOTE

If the operator changes the date and time on the system to a point before the current time and date, the system will lock–up. If this occurs, the system power must be cycled, and the proper time and date must be entered.

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “Manager” “Change Time/Date” option at top of the Training Management System display page (see page 2–80).

NOTE

If the operator does not desire to change the system time or date, it is important to select “Cancel” option to exit the “Change System Time” display.

c. Use left mouse button and select the new month desired.

d. Enter new day, and current time as shown in the format on page 2–82 followed by a carriage return or click on “OK” prompt.

e. Select “File”, “Exit” options and observe that “Exit Training Management?.”

f. Select “OK”, observe that login display appears.

g. This completes system Time and Date change Procedure.

4.1.13 MANAGER’S CREW/PLATOON DELETE CREW EXERCISE

This procedure describes the steps required to delete a crew record(s).

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “Record” ,“Crew or Platoon List” option at top of the Training Management System Crew Records display page (see page 2–76).

c. Using left mouse button, double click on desired record from the Student_List_Dialog_popup display.

d. Using left mouse button and highlight exercise to be deleted.

e. Select “Edit”, “Delete Exercise” option at the top of the Training Management Crew Records display (see page 2–72). Confirm exercise deletion when confirmation prompt appears.

f. Select “File”, “Save” options (see page 2–76).

g. Select “File”, “Exit” options and observe that “Exit Training Management?.”

h. Select “OK”, observe that login display appears.

i. This completes crew exercise deletion procedure.

4.1.14 MANAGER’S CREW/PLATOON DELETE CREW RECORDS

This procedure describes the steps required to delete crew record(s).

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “Record” ,“Crew or Platoon List” option at top of the Training Management System Crew Records display page (see page 2–72).

c. Using left mouse button, double click on desired record from the Student_List_Dialog_popup display.

d. Select “Edit”, “Delete Record(s)” option at the top of the Training Management Crew Records display (see page 2–72). Confirm records deletion when confirmation prompt appears.

e. Select “File”, “Save” options (see page 2–76).

f. Select “File”, “Exit” options (see page 2–76) to exits the Manager’s mode.

g. This completes crew record deletion procedure.

4.1.15 MANAGER’S CREW/PLATOON BACKUP CREW RECORDS

This procedure describes the steps required to backup crew record(s). This procedure can be preformed by Instructor/Operator or Training Manager.

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “File” ,“Backup” option at top of the Training Management System Crew Records display page (see page 2–72).

c. Insert a blank tape in tape drive of the General Purpose Computer (see page 2–84)

d. Select “OK” on the restore confirmation prompt.

e. Observe that crew record(s) “Tape backup complete“ prompt appear.

f. Select “File”, “Exit” options and observe that “Exit Training Management?.”

g. Select “OK”, observe that login display appears.

h. This completes manager’s backup crew records procedure.

4.1.16 MANAGER’S CREW/PLATOON RESTORE CREW RECORDS

This procedure describes the steps required to restore crew record(s). This procedure can only be preformed by Training Manager.

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “Manager” ,“Restore” option at top of the Training Management System Crew Records display page (see page 2–72).

c. Insert tape with record(s) to be restored in tape drive of the General Purpose Computer (see page 2–84)

d. Select “OK” on the restore confirmation prompt.

e. Observe that “Tape restore complete” prompt appear.

f. Select “File”, “Exit” options and observe that “Exit Training Management?.”

g. Select “OK”, observe that login display appears.

h. This completes crew record restored procedure.

4.1.17 MANAGER’S CREW ENABLED/DISABLED FUNCTION

This procedure describes the steps required to perform manager’s enabled or disabled function. The enabled function permits and established crew(s) to be reinitialized in the Basic Gunnery Skills program. The disabled function disallows established crew(s) from reestablishing crew records in the Basic Gunnery program.

a. Ensure Training Manager’s Log–in Procedures has been accomplished (see paragraph 4.1.5).

b. Use left mouse button and select “Record” ,“Crew” option at top of the Training Management System Crew Records display page (see page 2–76).

c. Using left mouse button, double click on desired student record from Student_List_Dialog_popup display.

d. To set crew records to enabled, select “Manager”,“Enabled” option at the top portion of the Training Management Crew Record display (see page 2–72).

TRAINING MANAGER FUNCTIONS

e. Select “File”, “Save” options (see page 2–76).

f. Select “File”, “Exit” options and observe that “Exit Training Management?.”

g. Select “OK”, observe that login display appears.

h. This completes manager’s enable/disable function.

CHAPTER 5
TRAINING EXERCISE OVERVIEW

5.1 SCOPE

The objective of the Advanced Gunnery Training System (AGTS) is to provide the crew with training exercises that develop and/or sustain their gunnery skills. Three type of AGTS exercises are described below that meet the training criteria:

Group 1. Exercises to teach procedural tasks, part tasks, and evaluate crew's proficiency.

Group 2. Exercises to develop and/or sustain Commanders and Gunners in defensive and offensive situations that require crews to engage enemy targets across narrow sectors. Provides realistic tactical scenarios that challenge the crew to learn and use critical gunnery skills and techniques.

Group 3. Exercises to develop and/or sustain the crew's combat gunnery proficiency by providing realistic tactical scenarios to challenge the crew's use of critical combat gunnery skills.

This chapter is an overview of all exercises available in the M1A2 SEP AGTS training system library. It contains exercise descriptive title, exercise and exercise format explanations. An exercise summary is provided for the Instructor Operator (I/O) as a reference in selecting desired exercises.

5.2 RECOMMENDED TRAINING STRATEGY

The AGTS should be used as a tool to supplement unit level collective field training in order to enhance combat effectiveness. Suggested procedures for training on the AGTS are described on page 3–36.

5.3 EXERCISE FORMAT

Exercises are grouped according to category and identified by number and descriptive title. All exercises have the same general task, condition, and standard formats.

5.4 TRAINING SYSTEM EXERCISES

The M1A2 SEP AGTS training exercises are categorized as follows:

a. Special Purpose Training Exercises.

b. Basic Gunnery Training Exercises (includes Pre–live Fire and Gate–to–Live Fire exercises).

c. Advanced Gunnery Training Exercises .

d. Sustainment Training Exercises .

Each exercise has a specific objective that is achieved by training the crew to perform the tasks under specified conditions, within prescribed scoring criteria. All exercises are available in European and Desert environments.

5.5 EXERCISE NUMBER

The AGTS exercise number consists of an eight character numeric/alpha–numeric label. The I/O can select any AGTS exercise in the exercise library by entering the first five digits of the desired exercise label followed by a carriage return. The system will initialize with a default for distraction, database and visibility exercise. If the I/O needs a specific database or visibility for the exercise(s), refer to the tables in this chapter.

The following table describes the sixth digit of the exercise numbers shown in Table 5–4 through Table 5–9. Entry of all eight digits of the exercise number is not required when selecting an exercise. If a specific distraction for an exercise(s) is desired, see Table 5–1 for exercise selection.

Table 5–1. Exercise Number Sixth Digit Distraction Selection

First Digit of Exercise Number	Numeric Label	Alpha–Numeric Label	Description
4,5	1	N	No Distractions
4,5	2	B	Battlefield Distractions
1,2,3*	3	N	Default for these (except OIP)
1*	3–8	3–8	OIP Setting (OIP only)
*Note: For OIP Special Purpose exercises. *Note: Distractions/OIP will be forced to a setting of 3.			

The following table describes the seventh digit of the exercise numbers shown in Table 5–4 through Table 5–9. Entry of all eight digits of the exercise number is not required when selecting an exercise. If a specific database (European or Desert) is desired, see Table 5–2 exercise selection.

Table 5–2. Exercise Number Seventh Digit Replication Selection

First Digit of Exercise Number	Numeric Label	Alpha–Numeric Label	Description
1,2,3,4,5	0	0	European Unique
1,4,5	1	1	European Replication 1
4,5	2	2	European Replication 2
4,5	3	3	European Replication 3
1,2,3,4,5	4	4	Desert Unique
1,4,5	5	5	Desert Replication 1
4,5	6	6	Desert Replication 2
4,5	7	7	Desert Replication 3

The following table describes the eighth digit of the exercise numbers shown in Table 5–4 through Table 5–9. Entry of all eight digits of the exercise number is not required when selecting an exercise. If a specific visibility (ie; night unlimited or night limited) is desired, all eight digits must be entered and Table 5–3 is used for exercise selection.

Table 5–3. Exercise Number Eighth Digit Visibility Selection

First Digit of Exercise Number	Numeric Label	Alpha–Numeric Label	Description
1,2,3,4,5.	1	U	Day Unlimited
1,2,3,4,5	4	H	Haze (Day Limited European)
1,2,3,4,5	5	D	Dust (Day Limited Desert)
1,2,3,4,5	7	T	Thermal (Night Unlimited)
1,2,3,4,5	8	C	Clutter (Night Limited)

5.5.1 EXERCISE INTERCHANGEABILITY

Interchangeable exercises within group(s) are intended to assist in target acquisition training and prevention of crews memorizing target locations within a specific scenario. AGTS software provides nine Reticle Aim (RA) levels that are broken down into three groups (Fully Operational, Battlesight Gunnery, and Auxiliary Sights and Battlesight Gunnery). Each of the three groups have four different target replications for each RA level (ie; A, B , C, or D shown below) or two replications (A or B) for ownvehicle moving exercises. When a crew enters the Advanced Gunnery Program only three levels of RA and all exercise(s) replications of Fully Operational group are available for selection. The Fully Operational groups is used for demonstration purposes as in the illustration below. Figure 5–1 provides an example of exercise "F3" as randomly selected with the initial replication "3A." Figure 5–2 provides an example of exercise replications available for selection if the exercise in Figure 5–1 is fired and the crew receives a passing score. Figure 5–3 provides an example of exercise replications available for selection if the crew receive a failing score for exercise Figure 5–1. This process is repeated every time a crew training exercise is selected.

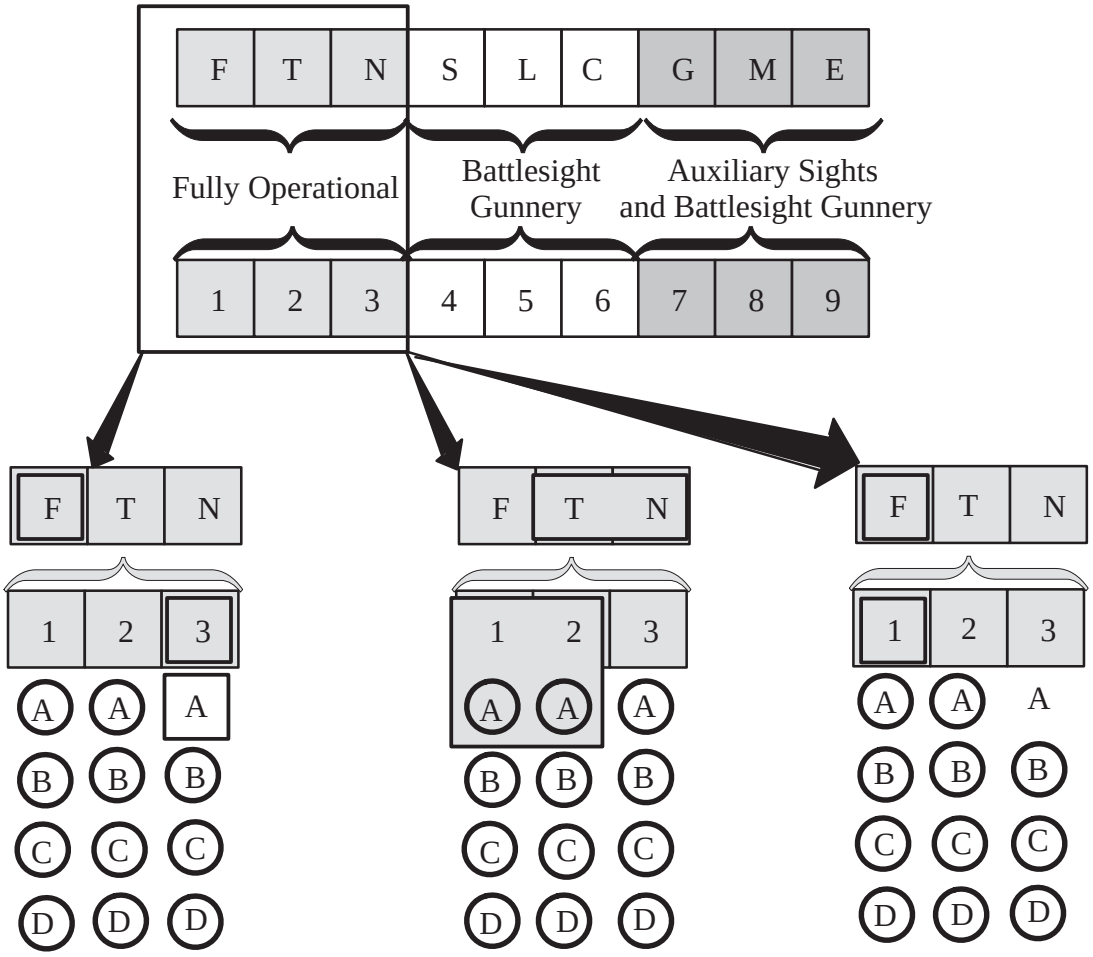


Figure 5–1 Exercise selected and fired

Figure 5–2 If exercise is fired and passed

Figure 5–3 If exercise is fired and failed

□ Indicates exercise has been selected

○ Indicates exercise replication available for selection

5.5.2 SPECIAL PURPOSE EXERCISES

There are 43 Special Purpose Exercises in the AGTS exercise library; divided into nine groups. These exercises are designed to familiarize the Commander and Gunner with the AGTS. Exercises available are: Orientation; Commander and Gunner Acquisition and Manipulation; CITV Target Handoff; Inter Vehicle Information System (IVIS); Optical Improvement Package (OIP); Coax Machine–gun (Tank Table five); Long Range Gunnery; Evasive Helicopter; Killer Tank; and Preparation for Crew Station Preparation/Boresight/Screening Test/Zero exercises. This table provides the I/O with the necessary information for manual selection of an exercise at the Instructor/Operator Station.

Table 5–4. Special Purpose Training Exercises

Exercise Number	Descriptive Exercise Title
	ORIENTATION/FAMILIARIZATION EXERCISES
10011/ EFA11	Sustainment Crew Trainer Introduction And Orientation (Tank Commander And Gunner)
	GUNNER – ACQUISITION AND MANIPULATION EXERCISES
11111/ EAM11	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Gunner – GPS – Normal – Day)
11124/ EAM24	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Gunner – GPS – Emergency – Day – Malf: Stab)
11137/ EAM37	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Gunner – GAS – Battlesight – Emergency – Day – Malf: GPS – Stab)
11148/ EAM48	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Gunner – GAS – Manual – Day – Malf: GPS – GPCH)
11151/ EAM51	Acquisition And Manipulation – Moving Tank – Stationary And Moving Targets (Gunner – GPS – Normal – Day)
	COMMANDER – ACQUISITION AND MANIPULATION EXERCISES
11166/ EAM66	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Commander – CITV – Normal – Day – Malf: GPSE – GPCH)
11176/ EAM76	Acquisition And Manipulation – Moving Tank – Stationary And Moving Targets (Commander – CITV – Normal – Day – Malf: GPSE – GPCH)
11189 EAM89	Acquisition And Manipulation – Stationary Tank – Stationary And Moving Targets (Gunner – GPSE – Normal – Day – Malf: CITV – GPCH)
11199/ EAM99	Acquisition And Manipulation – Moving Tank – Stationary And Moving Targets (Gunner – GPSE – Normal – Day – Malf: CITV – GPCH)

Table 5–4. Special Purpose Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	CREW CITV TARGET HAND OVER EXERCISES
12215/ ECV15	Target Hand Over – Stationary Tank – Stationary Targets (Commander – CITV; Gunner – GPS – Normal – Day – MALF: LRF)
12225/ ECV25	Target Hand Over – Stationary Tank – Moving Targets (Commander – CITV; Gunner – GPS – Normal – Day – MALF: LRF)
12231/ ECV31	Target Hand Over – Moving Tank – Stationary Targets (Commander – CITV; Gunner – GPS – Normal – Day)
12241/ ECV41	Target Hand Over – Moving Tank – Moving Targets (Commander – CITV; Gunner – GPS – Normal – Day)
12255/ ECV55	Target Hand Over – Stationary Tank – Multiple Stationary Targets (Commander – CITV; Gunner – GPS – Normal – Day – MALF: LRF)
12265/ ECV65	Target Hand Over – Stationary Tank – Multiple Moving Targets (Commander – CITV; Gunner – GPS – Normal – Day – MALF: LRF)
12271/ ECV71	Target Hand Over – Moving Tank – Multiple Stationary Targets (Commander – CITV; Gunner – TIS – Normal – Night)
12281/ ECV81	Target Hand Over – Moving Tank – Multiple Moving Targets (Commander – CITV; Gunner – TIS – Normal – Night)
	IVIS EXERCISES (Currently not supported)
13311/ EIV11	IVIS – Stationary Tank – Stationary And Moving Targets (Gunner – Precision – GPS – Normal – Day)
13321/ EIV21	IVIS – Stationary Tank – Stationary And Moving Targets (Gunner – Precision – GPS – Normal – Day)
13331/ EIV31	IVIS – Stationary Tank – Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
13341/ EIV41	IVIS – Stationary Tank – Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
	OIP EXERCISES
14411/ EAG11	OIP – Stationary Tank – Stationary Targets (Gunner – Precision – GPS – Normal – Day)
14421/ EAG21	OIP – Stationary Tank – Stationary Targets (Gunner – Precision – GPS – Normal – Day)
14431/ EAG31	OIP – Stationary Tank – Moving Targets (Gunner – Precision – GPS – Normal – Day)
14441/ EAG41	OIP – Stationary Tank – Moving Targets (Gunner – Precision – GPS – Normal – Day)

Table 5–4. Special Purpose Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	COAX EXERCISES
15511/ ECX11	COAX – Stationary Tank – Multiple Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
15521/ ECX21	COAX – Stationary Tank – Multiple Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
15531/ ECX31	COAX – Moving Tank – Multiple Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
15541/ ECX41	COAX – Moving Tank – Multiple Stationary and Moving Targets (Gunner – Precision – GPS – Normal – Day)
	LONG RANGE TARGET EXERCISES
16611/ ELR11	Long Range – Stationary Tank – Single Stationary Targets (Gunner – Precision – GPS – Normal – Day)
16621/ ELR21	Long Range – Stationary Tank – Single Stationary Targets (Gunner – Precision – TIS – Normal – Night)
16631/ ELR31	Long Range – Stationary Tank – Single Stationary Targets (Gunner – Precision – GPS – Normal – Day)
16641/ ELR41	Long Range – Stationary Tank – Single Stationary Targets (Gunner – Precision – TIS – Normal – Night)
	EVASIVE HELICOPTER EXERCISES
17711/ EEH11	Evasive Helicopter – Stationary Tank – Single Evasive Moving Helicopter (Gunner – Precision – GPS – Normal – Day)
17721/ EEH21	Evasive Helicopter – Stationary Tank – Single Evasive Moving Helicopter (Gunner – Precision – TIS – Normal – Night)
17736/ EEH36	Evasive Helicopter – Stationary Tank – Single Evasive Moving Helicopter (Commander – Precision – CITV – Normal – Day – MALF: GPCH)
17749/ EEH49	Evasive Helicopter – Stationary Tank – Single Evasive Moving Helicopter (Commander – Precision – GPSE – Normal – Day – MALF: GPCH – CITV)
	KILLER TANK EXERCISES
18811/ EKT11	Killer Tank – Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
18821/ EKT21	Killer Tank – Stationary Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)

Table 5–4. Special Purpose Training Exercises (Continued)

	KILLER TANK EXERCISES (Continued)
188361 EKT36	Killer Tank – Stationary Tank – Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH)
18849/ EKT49	Killer Tank – Stationary Tank – Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: GPCH – CITV)
	CREW STATION PREPARATION/BORESIGHT/SCREENING TEST/ZERO
19911/ EBZ11	Preparation of Crew Stations, Boresight and Conduct Main Gun Screening Test and Zero the COAX Machine Gun

5.5.3 BASIC PRE–LIVE FIRE EXERCISES

There are seven Basic Gunnery Pre–Live Fire Exercises. They are arranged so that each exercise provides practice in a Tank Table task. Basic pre–live fire exercises present defensive and offensive situations that require the crew to engage enemy targets spread across a narrow sector. Target delay times for all Basic Pre–Live–Fire exercises are similar to delay times reflected in Tank Table VIII engagements of ST 17–12–1A2. Basic Pre–Live fire exercises are selected by entering the five digit exercise number as shown in Table 5–4. If the I/O desires to select a specific distraction, database and visibility for an exercise, refer to Table 5–1, Table 5–2 and Table 5–3.

Table 5–5. Basic Pre–Live Fire Training Exercises

Exercise Number	Descriptive Exercise Title
	BASIC PRE–LIVE FIRE EXERCISES
22221/ BPLF1	Basic Pre–Live Fire – Stationary Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision – GPS – Normal – Day)
22222/ BPLF2	Basic Pre–Live Fire – Stationary Tank – Multiple Stationary and Moving Targets (Crew – Precision – TIS – Normal – Night)
22223/ BPLF3	Basic Pre–Live Fire – Moving Tank – Multiple Stationary and Moving Targets (Crew – Precision – GPS – Normal – Day – MALF: NBC)
22224/ BPLF4	Basic Pre–Live Fire – Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision – TIS – Normal – Night)
22225/ BPLF5	Basic Pre–Live Fire – Stationary Tank – Multiple Stationary Targets (Crew – Precision – TIS – Normal – Night – MALF: NBC)
22226/ BPLF6	Basic Pre–Live Fire – Stationary Tank – Multiple Stationary and Moving Targets (Crew – Battlesight – GAS – Normal – Night – MALF: LRF – GPS/GPSE)
22227/ BPLF7	Basic Pre–Live Fire – Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision – GPS – Normal – Day)

5.5.4 BASIC GUNNERY GATE TO LIVE FIRE EXERCISES

There are four Basic Gunnery Gate–To–Live Fire Exercises in the AGTS Crew Training Plan. They are selected automatically by the computer after successful completion of all Basic Pre–Live fire exercises. Scoring for Gate–to–Live fire exercises are identical to Table VIII scoring criteria. A crew is required to successfully complete one of the Gate–To–Live Fire Exercises before moving on to Advance Gunnery Skill Level exercises. Basic Gate–to–Live fire exercises are selected by entering the five digit exercise number as shown in Table 5–6. If the I/O desires a specific distraction, database and visibility for an exercise, refer to Table 5–1, Table 5–2 and Table 5–3.

Table 5–6. Basic Gunnery Gate to Live Fire Training Exercises

Exercise Number	Descriptive Exercise Title
	GATE TO LIVE FIRE EXERCISES
33331/ GTLF1	Gate to Live Fire – Stationary and Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision/Battlesight – GPS/TIS/GAS/CITV – Normal – Day – MALF: NBC – LRF – GPS/GPSE – GPCH)
33332/ GTLF2	Gate to Live Fire – Stationary and Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision/Battlesight – GPS/TIS/GAS/CITV – Normal – Day – MALF: NBC – LRF – GPS/GPSE – GPCH)
33333/ GTLF3	Gate to Live Fire – Stationary and Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision/Battlesight – GPS/TIS/GAS/CITV – Normal – Day – MALF: NBC – LRF – GPS/GPSE – GPCH)
33334/ GTLF4	Gate to Live Fire – Stationary and Moving Tank – Single and Multiple Stationary and Moving Targets (Crew – Precision/Battlesight – GPS/TIS/GAS/CITV – Normal – Day – MALF: NBC – LRF – GPS/GPSE – GPCH)

M1A2 CREW TRAINING PROGRAM ADVANCED GUNNERY SKILL LEVEL 1

Mov OV, Mov Tgts	41411	41422	41433	41444	41455	41466	41477	41488	41499	Randomly Selected
St OV, Mov Tgts	41311	41322	41333	41344	41355	41366	41377	41388	41399	Randomly Selected
Mov OV, St Tgts	41211	41222	41233	41244	41255	41266	41277	41288	41299	Randomly Selected
St OV, St Tgts	41111	41122	41133	41144	41155	41166	41177	41188	41199	Randomly Selected

5.5.5 ADVANCED GUNNERY SKILL LEVEL EXERCISES

There are 108 Advanced Gunnery Skill level exercises in the AGTS Crew Training Program (CTP). The exercises are grouped into three reticle aim levels (Advanced Gunnery Skill I, II, and III), and arranged so gunnery tasks and ownvehicle conditions become progressively more difficult as the crew advances through the training matrix. The three advanced skill levels are shown in Figure 3–1. Advanced Gunnery Skill Level exercises can be selected by entering the five digit exercise number as shown in Table 5–7. If the I/O desires a specific distraction, database and visibility for an exercise, refer to Table 5–1, Table 5–2 and Table 5–3.

Table 5–7. Advanced Gunnery Skill Level 1 Training Exercises

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 1 EXERCISES
41111/ A11F1	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
41122/ A11T2	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Night)
41133/ A11N3	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
41144/ A11S4	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
41155/ A11L5	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
41166/ A11C6	Stationary Tank – Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
41177/ A11G7	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41188/ A11M8	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41199/ A11E9	Stationary Tank – Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
41211/ A12F1	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
41222/ A12T2	Moving Tank – Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Night)
41233/ A12N3	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
41244/ A12S4	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
41255/ A12L5	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
41266/ A12C6	Moving Tank – Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)

Table 5–7. Advanced Gunnery Skill Level 1 Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 1 TRAINING EXERCISES (Continued)
41277/ A12G7	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41288/ A12M8	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41299/ A12E9	Moving Tank – Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
41311/ A13F1	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
41322/ A13T2	Stationary Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
41333/ A13N3	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
41344/ A13S4	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
41355/ A13L5	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
41366/ A13C6	Stationary Tank – Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
41377/ A13G7	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41388/ A13M8	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41399/ A13E9	Stationary Tank – Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
41411/ A14F1	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
41422/ A14T2	Moving Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
41433/ A14N3	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
41444/ A14S4	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
41455/ A14L5	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
41466/ A14C6	Moving Tank – Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
41477/ A14G7	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)

Table 5–7. Advanced Gunnery Skill Level 1 Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 1 TRAINING EXERCISES (Continued)
41488/ A14M8	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
41499/ A14E9	Moving Tank – Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)

M1A2 CREW TRAINING PROGRAM ADVANCED GUNNERY SKILL LEVEL 2

Mov OV, Mov Tgts	42411	42422	42433	42444	42455	42466	42477	42488	42499	Randomly Selected
St OV, Mov Tgts	42311	42322	42333	42344	42355	42366	42377	42388	42399	Randomly Selected
Mov OV, St Tgts	42211	42222	42233	42244	42255	42266	42277	42288	42299	Randomly Selected
St OV, St Tgts	42111	42122	42133	42144	42155	42166	42177	42188	42199	Randomly Selected

Table 5–8. Advanced Gunnery Skill Level 2 Training Exercises

	ADVANCED GUNNERY SKILL LEVEL 2 TRAINING EXERCISES
42111/ A21F1	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
42122/ A21T2	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Night)
42133/ A21N3	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
42144/ A21S4	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
42155/ A21L5	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
42166/ A21C6	Stationary Tank – Single and Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
42177/ A21G7	Stationary Tank – Single and Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42188/ A21M8	Stationary Tank – Single and Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42199/ A21E9	Stationary Tank – Single and Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
42211/ A22F1	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
42222/ A22T2	Moving Tank – Single and Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Night)
42233/ A22N3	Moving Tank – Single and Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
42244/ A22S4	Moving Tank – Single and Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
42255/ A22L5	Moving Tank – Single and Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
42266/ A22C6	Moving Tank – Single and Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
42277/ A22G7	Moving Tank – Single and Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42288/ A22M8	Moving Tank – Single and Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42299/ A22E9	Moving Tank – Single and Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)

Table 5–8. Advanced Gunnery Skill Level 2 Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 2 TRAINING EXERCISES (Continued)
42311/ A23F1	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
42322/ A23T2	Stationary Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
42333/ A23N3	Stationary Tank – Single and Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
42344/ A23S4	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
42355/ A23L5	Stationary Tank – Single and Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
42366/ A23C6	Stationary Tank – Single and Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
42377/ A23G7	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42388/ A23M8	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
42399/ A23E9	Stationary Tank – Single and Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
42411/ A24F1	Moving Tank – Single and Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
42422/ A24T2	Moving Tank – Single and Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
42433/ A24N3	Moving Tank – Single and Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
42444/ A24S4	Moving Tank – Single and Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
42455/ A24L5	Moving Tank – Single and Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
42466/ A24C6	Moving Tank – Single and Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
42477/ A24G7	Moving Tank – Single and Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)

Table 5–8. Advanced Gunnery Skill Level 2 Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 2 TRAINING EXERCISES (Continued)
42488/ A24M8	Moving Tank – Single and Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Trig gers)
42499/ A24E9	Moving Tank – Single and Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)

M1A2 CREW TRAINING PROGRAM ADVANCED GUNNERY SKILL LEVEL 3

Mov OV, Mov Tgts	43411	43422	43433	43444	43455	43466	43477	43488	43499	Randomly Selected
St OV, Mov Tgts	43311	43322	43333	43344	43355	43366	43377	43388	43399	Randomly Selected
Mov OV, St Tgts	43211	43222	43233	43244	43255	43266	43277	43288	43299	Randomly Selected
St OV, St Tgts	43111	43122	43133	43144	43155	43166	43177	43188	43199	Randomly Selected

Table 5–9. Advanced Gunnery Skill Level 3 Training Exercises

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 3 TRAINING EXERCISES
43111/ A31F1	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
43122/ A31T2	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Night)
43133/ A31N3	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
43144/ A31S4	Stationary Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
43155/ A31L5	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
43166/ A31C6	Stationary Tank – Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
43177/ A31G7	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43188/ A31M8	Stationary Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43199/ A31E9	Stationary Tank – Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
43211/ A32F1	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day)
43222/ A32T2	Moving Tank – Multiple Stationary Targets (Gunner – Precision – TIS – Normal – Normal – Night)
43233/ A32N3	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
43244/ A32S4	Moving Tank – Multiple Stationary Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
43255/ A32L5	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
43266/ A32C6	Moving Tank – Multiple Stationary Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
43277/ A32G7	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43288/ A32M8	Moving Tank – Multiple Stationary Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)

Table 5–9. Advanced Gunnery Skill Level 3 Training Exercises (Continued)

Exercise Number	Descriptive Exercise Title
	ADVANCED GUNNERY SKILL LEVEL 3 TRAINING EXERCISES
43299/ A32E9	Moving Tank – Multiple Stationary Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
43311/ A33F1	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
43322/ A33T2	Stationary Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
43333/ A33N3	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
43344/ A33S4	Stationary Tank – Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
43355/ A33L5	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
43366/ A33C6	Stationary Tank – Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
43377/ A33G7	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43388/ A33M8	Stationary Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43399/ A33E9	Stationary Tank – Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)
43411/ A34F1	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day)
43422/ A34T2	Moving Tank – Multiple Moving Targets (Gunner – Precision – TIS – Normal – Night)
43433/ A34N3	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Normal – Day – MALF: NBC)
43444/ A34S4	Moving Tank – Multiple Moving Targets (Gunner – Precision – GPS – Emergency – Day – MALF: STAB)
43455/ A34L5	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GPS – Normal – Day – MALF: LRF)
43466/ A34C6	Moving Tank – Multiple Moving Targets (Commander – Precision – CITV – Normal – Day – MALF: GPCH – GPS/GPSE)
43477/ A34G7	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Emergency – Day – MALF: CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43488/ A34M8	Moving Tank – Multiple Moving Targets (Gunner – Battlesight – GAS – Manual – Day – MALF: GPCH – CCH – GPS/GPSE – COMP – LRF – STAB – Triggers)
43499/ A34E9	Moving Tank – Multiple Moving Targets (Commander – Precision – GPSE – Normal – Day – MALF: CITV – GPCH)

5.6 PLATOON EXERCISE DESCRIPTIONS

There are 56 Platoon Exercises divided into three groups. These exercises are designed to familiarize Commanders and Gunners with various types of simulated combat situations. These exercises are manually selected by the I/O. This table provide exercise number for each platoon exercise and provide a brief description of each exercise. Volume 2 of this document provides a detailed description of each exercise.

	BASIC PRE–PROGRAMMED PLATOON EXERCISES
71101141 PBD01N4U	**Prepare for and conduct a day defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting a deliberate occupation of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500 meters.
71102147 PBD02N4T	**Prepare for and conduct a night defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting a deliberate occupation of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500.
71103101 PBD03N0U	**Prepare for and conduct a day defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting a deliberate occupation of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71104107 PBD04N0T	**Prepare for and conduct a night defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting a deliberate occupation of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71105141 PBD05N4U	**Prepare for and conduct a day defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting the defense of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500. The platoon is fully operational.
71106147 PBD06N4T	**Prepare for and conduct a night defense of a battle position.** Prepare for and conduct a movement to contact & hasty attack (Night – 1 objective – movement by platoon {traveling, assault} – range < 1500 meters – < 25% moving targets – No distractions – No malfunctions – Narrow sector)
71107101 PBD07N0S	**Prepare for and conduct a day defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting the defense of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

71108107 PBD08N0T	**Prepare for and conduct a night defense of a battle position.** The platoon is required to prepare for and conduct a defense of a battle position as part of a company/team conducting the defense of a battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational
71209141 PBO09N4U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and a hasty attack as part of a company/team conducting a hasty attack. The platoon will engage multiple moving and stationary targets from moving and stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71210147 PBO10N4T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and a hasty attack as part of a company/team conducting a hasty attack. The platoon will engage multiple moving and stationary targets from moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71211101 PBO11N0U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and a hasty attack as part of a company/team conducting a hasty attack. The platoon will engage multiple moving and stationary targets from moving and stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71212107 PBO12N0T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and a hasty attack as part of a company/team conducting a hasty attack. The platoon will engage multiple moving and stationary targets from moving and stationary tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71213141 PBO13N4U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and a hasty attack of a company/team conducting a hasty attack. The platoon will engage multiple moving and stationary targets from moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71214147 PBO14N4T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact hasty attack as part of a company/team conducting a hasty attack. The platoon will engage moving and stationary targets from moving and stationary tanks. The targets vary in range from 300 to 1500 meters. The platoon is fully operational.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

71315141 PBC15N4U	**Prepare for and conduct a day defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71316147 PBC16N4T	**Prepare for and conduct a night defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71317101 PBC17N0U	**Prepare for and conduct a day defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71318107 PBC18N0T	**Prepare for and conduct a night defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon is fully operational.
71319141 PBC19N4U	**Prepare for and conduct a day defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon has only three fully operational tanks.
71320147 PBC20N4T	**Prepare for and conduct a night defense of a battle position and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position and a hasty attack as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 1500 meters. The platoon has three fully operational tanks.
71121101 PBD21N0U	**Conduct a hasty defense.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

71122107 PBD22N0T	**Conduct a night hasty defense.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. The platoon will engage multiple moving and stationary targets from stationary tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
71323101 PBC23N0U	**Prepare for and conduct a day hasty attack.** The platoon is required to prepare for and conduct a Hasty Attack. The platoon will engage multiple moving and stationary targets from both moving and stationary tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
71324107 PBC24N0T	**Conduct a night hasty attack.** The platoon is required to prepare for and conduct a Hasty Attack. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
71225101 PBO25N0U	**Conduct a daylight attack.** The platoon as part of a company/team is required to prepare for and conduct a Deliberate Attack. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
	INTERMEDIATE PRE–PROGRAMMED PLATOON EXERCISES
72326107 PIC26N0T	**Conduct a night attack.** The platoon as part of a company/team must prepare for and conduct a Deliberate Attack. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72127141 PID27N4U	**Prepare for and conduct a day defense of multiple battle positions.** The platoon is required to prepare for and conduct a defense of multiple battle positions as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving own tanks. The targets will vary in range from 300 to 2500. The platoon is fully operational, but individual tanks will have malfunctions introduced during the exercise.
72128147 P1D28N4T	**Prepare for and conduct a night defense of multiple battle positions.** The platoon is required to prepare for and conduct a defense of multiple battle positions as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary and moving own tanks. The targets will vary in range from 300 to 2500 meters. The platoon is fully operational, but individual tanks will have malfunctions introduced during the exercise.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

72129101 PID29N0U	**Prepare for and conduct a day hasty defense and delay.** The platoon is required to prepare for and conduct a Hasty Defense and on order, delay to a subsequent battle position. The platoon will engage multiple stationary and moving targets from stationary tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72130107 PID30N0T	**Prepare for and conduct a night hasty defense and delay.** The platoon is required to prepare for and conduct a Hasty Defense and on order, delay to a subsequent battle position. The platoon will engage multiple stationary and moving targets from stationary tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72131141 PID31N4U	**Prepare for and conduct a day defense in company sector and defend a battle position.** The platoon is required to prepare for and conduct a defense in company sector and on order defend from a battle position as part of a company/team conducting a defense. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 2500 meters. The platoon is initially fully operational, but individual tanks will have malfunctions induced during the exercise.
72132147 PID32N4T	**Prepare for and conduct a night company defense in sector and defend multiple platoon battle positions.** The platoon is required to prepare for and conduct a defense in sector and on order defend from a battle position as part of a company/team conducting a defense in sector. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 2500 meters. The platoon is initially fully operational, but individual tanks will have malfunctions induced during the exercise.
72333101 PIC33N0U	**Prepare for and conduct a day hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters.
72334107 PIC34N0T	**Prepare for and conduct a night hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters.
72335141 PIC35N4U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving own tanks. The targets will vary in range from 300 to 2500 meters. The platoon is fully operational but individual tanks will have malfunctions induced during the exercise.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

72336147 PIC36N4T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 2500 meters. The platoon is initially fully operational, but individual tanks will have malfunctions induced during the exercise.
72337101 PIC37N0U	**Prepare for and conduct a day hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72338107 PIC38N0T	**Prepare for and conduct a night hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72339141 PIC39N4U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving own tanks. The targets will vary in range from 300 to 2500 meters. The platoon is fully operational, but individual tanks will have malfunctions induced during the exercise.
72340147 PIC40N4T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 2500 meters. The platoon is initially fully operational, but individual tanks will have malfunctions induced during the exercise.
72341101 PIC41N0U	**Prepare for and conduct a day deliberate attack, defense, and delay.** The platoon is required to prepare for and conduct a Deliberate Attack. On order, delay to a subsequent position. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.
72342107 PIC42N0T	**Prepare for and conduct a night hasty defense, delay and counter attack.** The platoon is required to prepare for and conduct a Deliberate Attack. On order, delay to a subsequent position. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon is fully operational.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

	Prepare for and conduct a day defense in company sector, defense of a company battle position, movement to contact and hasty attack.
72343141 PIC43N4U	The platoon is required to prepare for and conduct a defense of a battle position, a movement to contact and hasty attack as part of a company/team conducting delay operations. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 2500 meters. When the exercise begins the platoon is fully operational, but individual tank malfunctions will be introduced.
	Prepare for and conduct a night defense in company sector, defense of a battle position, movement to contact and hasty attack.
72344147 PIC44N4T	The platoon is required to prepare for and conduct a defense in sector, defense of a battle position, a movement to contact and hasty attack as part of a company/team conducting a defense The platoon will engage multiple moving and stationary targets from stationary and moving tanks The targets will vary in range from 300 to 2500 meters When the exercise begins the platoon is fully operational, but individual malfunctions will be introduced.
	Prepare for and conduct a day defense of a battle position, movement to contact and hasty attack.
72345141 PIC45N4U	The platoon is required to prepare for and conduct a defense of a battle position, movement to contact and hasty attack as part of a company/team conducting a defense and movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in range from 300 to 2500 meters. The platoon is initially fully operational, but individual tanks will have malfunctions induced during the exercise.
	Prepare for and conduct a night defense of a battle position, movement to contact and hasty attack.
72346147 PIC46N4T	The platoon is required to prepare for and conduct a defense of a battle position, movement to contact and hasty attack as part of a company/team conducting a defense and movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in range from 300 to 2500 meters. The platoon is fully operational, but malfunctions will be introduced to individual tanks.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

72347141 PIC47N4U	**Prepare for and conduct a day defense of a battle position, movement to contact and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position, movement to contact and hasty attack as part of a company/team conducting a defense and movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in range from 300 to 2500 meters. Initially, the platoon has three fully operational tanks, but individual tanks will have malfunctions induced during the exercise.
72348147 PIC48N4T	**Prepare for and conduct a night defense of a battle position, movement to contact and hasty attack.** The platoon is required to prepare for and conduct a defense of a battle position, movement to contact and hasty attack as part of a company/team conducting a defense and movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 2500 meters. Initially, the platoon has three fully operational tanks, but malfunctions will be introduced to individual tanks.
72349101 PIC49N0U	**Prepare for and conduct a day hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon has lost one tank to enemy fire.
72350107 PIC50N0T	**Prepare for and conduct a night hasty defense and hasty attack.** The platoon is required to prepare for and conduct a Hasty Defense as part of a company/team occupying a defensive battle position. On order, conduct a Hasty Attack and secure an objective. The platoon will engage multiple stationary and moving targets from both stationary and moving tanks. The target ranges will vary from 500 to 3000 meters. The platoon has lost one tank to enemy fire.
	ADVANCED PRE–PROGRAMMED PLATOON EXERCISES
73351141 PAC51N4U	**Prepare for and conduct a day defense of multiple battle positions and a counterattack by fire.** The platoon is required to prepare for and conduct a defense of multiple battle positions and counterattack by fire as part of a company/team conducting a defense in depth. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 3500 meters. The platoon is fully operational, but malfunctions may be randomly introduced.

PLATOON EXERCISE DESCRIPTIONS (CONTINUED)

73352147 PAC52N4T	**Prepare for and conduct a night defense of multiple battle positions and a counter-attack by fire.** The platoon is required to prepare for and conduct a defense of multiple battle positions and counterattack by fire as part of a company/team conducting a defense in depth. The platoon will engage multiple moving and stationary targets from stationary tanks. The targets will vary in range from 300 to 3500 meters. The platoon is fully operational, but malfunctions may be randomly introduced.
73253141 PAO53N4U	**Prepare for and conduct a day movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in range from 300 to 3500 meters. The platoon is fully operational, but random malfunctions may be introduced to individual tanks.
73254147 PAO54N4T	**Prepare for and conduct a night movement to contact and hasty attack.** The platoon is required to prepare for and conduct a movement to contact and hasty attack as part of a company/team conducting a movement to contact. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in range from 300 to 3500 meters. The platoon is fully operational, but random malfunctions may be introduced to individual tanks.
73355141 PAC55N4U	**Prepare for and conduct a day movement to contact, hasty attack, defense in company sector and counterattack by fire.** The platoon is required to prepare for and conduct a movement to contact, hasty attack, defense in company sector and counterattack by fire as part of a company/team conducting a movement to contact and defense in sector. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. The targets will vary in range from 300 to 3500 meters. The platoon is fully operational, but random malfunctions may be introduced to individual tanks.
73356147 PAC56N4T	**Prepare for and conduct a night movement to contact, hasty attack, defense in company sector and counterattack by fire.** The platoon is required to prepare for and conduct a movement to contact, hasty attack, defense in company sector and counterattack by fire as part of a company/team conducting a movement to contact and defense in sector. The platoon will engage multiple moving and stationary targets from stationary and moving tanks. In at least one situation the platoon will be provided an alternate path that, if taken, will allow the platoon to better engage the targets presented. The targets will vary in ranges from 300 to 3500 meters. The platoon is fully operational, but random malfunctions may be introduced to individual tanks.

5.7 LEADER RECONNAISSANCE

Leader reconnaissance may be accomplished by running the pre–programmed exercises listed above. The descriptive titles, scope, and tasks trained, are identical. No targets should be activated by the I/O when these exercises are run as reconnaissance exercises. The I/O is responsible for limiting movement to the first battle position in defense or the line of departure in offense. Since all vehicles and vehicle paths are provided, the platoon leader may conduct a recon by himself or he may take any or all platoon members with him. The own-vehicle path for each platoon member provides the identical start point and path as in the pre–programmed exercise. The IOS keypad functions that control ownvehicle movement in pre–programmed exercises are identical.

CHAPTER 6
OPERATION UNDER USUAL CONDITIONS

6.1 PRECONDITIONING PROCEDURE

This procedure describes how to precondition the AGTS system prior to electronic equipment power–up.

a. At Instructor/Operator Station (IOS), verify that all monitors On/Off switches are set to Off (see Figure 2–1).

b. At General Purpose Computer (GPC), verify ON/OFF power switch is set to OFF (see Figure 2–3).

c. At rear of Special Purpose Computer (SPC), verify POWER AC ON/OFF circuit breaker is set to OFF and PS1, PS2, and PS3 circuit breakers are set to ON (see Figure 2–4).

d. Verify Laser Printer On/Off pushbutton is set to Off (see Figure 2–7).

e. Ensure the Electronic Interface Device (EID) POWER OFF/ON/START keyswitch is set to OFF (see Figure 2–6).

f. Verify that all Power Panel circuit breakers are OFF (see Figure 2–5).

g. Verify that the PAAR station is powered–up.

Caution

It is extremely important that the temperature and humidity in training area is within the prescribed operating range. AGTS equipment will not operate properly when temperature is not within operating range.

h. Verify that temperature in training area is between 61° to 79° F with a relative humidity of 30% to 70%. Failure to ensure temperature remains in operating range may damage the electronic equipment.

i. This completes AGTS System Preconditioning Procedures. See page 6–1 for Electronic Equipment Power–up Procedures.

6.2 ELECTRONIC EQUIPMENT POWER–UP PROCEDURE

This procedure describes steps to follow to turn–on electronic equipment with the assumption that the facility has been temperature and humidity conditioned. Upon completion of this procedure, the electronic equipment will be energized and ready for user log–in and operation.

NOTE

To perform platoon training, ensure that this power–up procedure is completed on trainer #2 before attempting to power–up the rest of the training systems.

a. Ensure Preconditioning Procedure has been performed (see page 6–1).

b. Ensure all Power Panel circuit breakers are set to ON (see Figure 2–5).

c. Set the IOS Power strip On/Off switch to ON (see Figure 2–1).

d. Set laser printer On/Off pushbutton to On (see Figure 2–7).

e. Set display terminal (Situation Monitor) On/Off pushbutton switch to On (see Figure 2–8).

OPERATION UNDER USUAL CONDITIONS

NOTE

If the GPC power On indicator fails to light when the DC On/Off pushbutton/indicator is set to On, notify organizational maintenance (see Figure 2–3).

f. Set GPC DC On/Off pushbutton/indicator to On (see Figure 2–3).

NOTE

It will take the GPC several minutes to complete the BOOT process, during which time the system will issue several status or warning messages (visible on the IOS display terminal screen, see Figure 2–8). These messages may be ignored.

g. After several minutes at the IOS, observe that the Log–in display appears on the terminal screen (see Figure 2–17).

Caution

At the IOS, when the training monitor's On/Off switch is set to On, the monitors are automatically demagnetized. To avoid possible damage to the training monitors do not press the Degauss button (to demagnetize the monitors) for a period of at least 30 minutes (see Figure 2–9).

h. At the IOS, set training monitor On/Off switches to On (see Figure 2–9).

Caution

To avoid possible damage to the Special Purpose Computer (SPC), ensure LOGIC POWER circuit breakers PS1, PS2 and PS3 are set to ON before setting MAIN POWER ON/OFF circuit breaker to ON (see Figure 2–4).

Caution

If SPC OVER TEMP indicator lights red when the MAIN circuit breaker is set to ON, turn MAIN POWER circuit breaker Off and notify organizational maintenance personnel (see Figure 2–4).

i. Set SPC MAIN POWER ON/OFF circuit breaker to ON. Observe that MAIN POWER ON indicator lights green and OVER TEMP indicator is not lit (see Figure 2–4).

j. At left side of SPC, place hand over air vents and verify cooling fans are operating.

k. Open the SPC cabinet door and press and release the green "RESET" button. Close SPC cabinet door.

l. In the upper portion of Electronic Interface Device (EID) cabinet, verify that AC Master Power ON/OFF circuit breaker is set to ON (see Figure 2–6 (3)).

m. Verify that all eight LOAD circuit breakers are set to ON (up) (see Figure 2–6 (5)).

NOTE

If all of the LOAD indicators do not light when the EID unit OFF/ON/START circuit breaker is set to ON, notify organizational maintenance personnel (see Figure 2–6 (4)).

n. At EID unit Control Panel, rotate OFF/ON/START keyswitch to START position momentarily and release it. After several seconds, observe that all LOAD indicators are lit (see Figure 2–6 (2)).

o. Verify that Gunner Control Display Panel/Commander's Display Unit (GCDP/CDU) computer POWER On/Off switches are On (see Figure 2–6).

OPERATION UNDER USUAL CONDITIONS

NOTE

The training visual scene will appear on the training monitor screen approximately twenty minutes after the SPC MAIN POWER ON/OFF circuit breaker has been set to ON as in step (k) above.

p. At the IOS (see Figure 2–1), verify that the visual database scene appears on UVB/GPSE Commander's monitor (1), GPS/GAS Gunner's monitor (2), and CITV monitor (13).

q. At the CDU monitor screens, verify that the message "AWAITING CONNECTION REQUEST..." or AGTS logo appears on terminal screen. If messages fail to appear, press RESET pushbutton at the EID (Figure 2–6 (8)) and wait approximately five minutes for message to appear. If "AWAITING CONNECTION REQUEST..." message still fails to appear on monitor screen, notify organizational maintenance personnel.

r. For platoon mode training, power–up the PAAR station per Chapter 7 of this document after all four training systems have been powered–up.

s. This completes system power–up procedures. To conduct training, perform IOS User Log–in Procedure.

6.3 IOS USER LOG–IN PROCEDURE

This procedure is performed each time a user initiates operation of the trainer. Operating access is permitted only to those personnel having authorized passwords. When log–in is completed, the Mode Select display page will appear for selection of desired operating program.

a. Ensure that Electronic Equipment Power–Up Procedure has been performed (see page 6–1).

b. Observe that the User Log–in display appears on the terminal screen (see Figure 2–17).

c. To log–in at the IOS, type in "crew" to conduct crew training, "manager" to perform Manager's duties, or "leader or member" to conduct Platoon training (see Figure 2–17).

d. Press Return or Tab key on the keyboard.

e. At terminal screen, observe that the "Password" field is highlighted.

f. Enter your password using terminal keyboard.

NOTE

If incorrect password is entered, message "Invalid login, Acknowledge" prompt appears on terminal screen.

g. To continue log–in procedures, Press Return key or select "OK" button with the left mouse button.

h. Observe that the Mode Select display page automatically appears on the terminal screen with the following options displayed (see Figure 2–18):

Start Training

Training Management

Hardware Diagnostics

Built In Test

Exit Training

i. Prior to conducting training, run the Built In Test (BIT).

j. This completes Users Log–in procedures.

6.4 IOS DAILY READINESS CHECK PROCEDURE

This procedure describes how to check the system to determine its readiness for training. This procedure should be performed each time the equipment is powered up. Procedures assume that the Built In Test (BIT) (See page 6–5) has been conducted.

a. Ensure IOS Users Log–in and BIT Procedures have been accomplished (see page 6–3).

b. Observe Mode Select display appears on terminal screen (see Figure 2–18).

c. Using left mouse button, select “Start Training” option (see Figure 2–18).

d. Select “YES or NO” to loading of OIP glare options.

e. After several minutes, observe that the database loads and that “Initialization Display Page” appears on terminal screen (see page 2–40).

f. Type in desired vehicle name or rapid log–on (xxx) in the “Vehicle Name” field (see Figure 2–25), followed by a carriage return. Next, at the upper right portion of Initialization Display page, use left mouse button and select “Daily Readiness” option.

g. Using left mouse button, select “YES or NO” option from the “Do you wish to Boresight” prompt.

h. Observe that “OPERATIONAL READINESS TESTS SELECTED ACCEPT EXERCISE now to continue...” appears on IOS terminal screen.

i. Using left mouse button, select “Accept Exercise” button.

Warning

Vehicle Tank Helmet (VTH) must be worn when entering crew station and not removed until exit is completed.

Warning

When entering or exiting the crew station, take extreme care that you do not bump your head on crew station entrance.

j. After several minutes, observe ”Turn–on Turret Power” prompt appears in the “Messages” box.

k. When all switches in crew station are set correctly, observe that "Ready To Start Exercise" message appears in the "Messages" box.

l. Select "Start Exercise" prompt.

m. Select "Next Page" prompt to page through the Daily Readiness check as required (see page 6–4).

n. At conclusion of Daily Readiness check, select "Freeze" icon from the Graphic Users Interface Electronic keypad.

o. Select "Terminate" icon from the Graphic Users Interface Electronic keypad (see Figure 2–27).

p. Select "Confirm"from popup prompt "Do you really want to terminal the current exercise?).

q. Print Daily Readiness data, if required, or select "Cancel" options if printing is not required.

r. If the exercise was selected under computer recommended, select "YES or NO from the "Do you wish to run the desert version of this exercise?".

s. Observe that Initialization display page appears on terminal screen (see Figure 2–25).

t. This completes the Daily Readiness check procedures.

6.5 DIAGNOSTIC TEST PROCEDURE

Diagnostic Test Procedure steps (a) through (d) describe test procedures to be conducted if the I/O experience problems with crew station controls and indicators or sound system during power–up or during training. Ensure the Pre–Briefing/After Action Reviewer (PAAR) station is powered up properly before attempting to run the Built–In–Test Procedures.

a. Exit the training or test mode where problem was detected and re–enter the same training or test mode again.

b. If problem still exists, terminate training or test mode until the Mode Select display appears (see Figure 2–18).

NOTE

The "BIT" test will take approximately five minutes to complete, during which time the system will issue several status displays (visible on the IOS display terminal screen). These displays will not require a response from the I/O. After the "BIT" test has loaded, the Mode Select display will automatically appear on IOS terminal screen.

c. Using left mouse button, select Built In Test (BIT) from Mode Select display. Observe that BIT test is initialized. At the conclusion of BIT test, select "EXIT" from the IOS Built–In–Test (BIT) Aural Cues display page. Next select "File", "Exit" from the "Hardware Diagnostic" display page and observe that "Mode Select" display appears on terminal screen.

d. Re–enter mode where problem was detected. If problem still exists, notify organizational maintenance personnel.

If the I/O notices continuous streaking or loss of all data base visuals during the conduct of the Daily Readiness check or during the conduct of crew training or system power–up procedures, the I/O should perform steps (e) through (l) below.

e. Exit training or test mode where problem was detected.

f. Terminate training or test mode and exit to Mode Select display (see Figure 2–18).

g. Select "Start Training" again. If problem still exist, terminate to Mode Select display.

h. Select "Hardware Diagnostic" option.

OPERATION UNDER USUAL CONDITIONS

CAUTION

When "Image Generator" has been selected to Reboot the Image Generator (IG), it is important to understand it will take approximately fifteen minutes for the IG to reboot. Do not attempt to make other selections during this process.

i. Use left mouse button to select "Image Generator" option from hardware diagnostic display.

j. Select "Reboot" from the "Image Generation (Reboot) display page.

k. After approximately fifteen minutes, observe that database visual scene disappears from the IOS training monitors. After a short period, the database scene re–appears on the training monitors.

l. Exit diagnostics mode and re–enter mode where problem was previously detected, if problem still exists, notify organizational maintenance personnel.

m. This completes the Diagnostic Test Procedure.

6.6 IOS USER EXIT TRAINER (LOG–OFF) PROCEDURE

This procedure describes how a user exits training mode at the conclusion of training session.

a. At IOS, from Mode Select display, use left mouse button to select "Exit Training" option (see Figure 2–18).

b. Observe that pop–up prompt "Exit the AGTS Trainer" display appears on terminal screen.

c. Select "OK" from the "Exit the AGTS Trainer" pop–up display.

d. Observe that User Log–in display appears on terminal screen (see Figure 2–17).

e. This completes User Exit Training Procedures. To resume operation go to User Log–in Procedures (see page 6–3).

6.7 ELECTRONIC EQUIPMENT POWER–DOWN PROCEDURE

This procedure describes proper sequences for electronic equipment power–down of the AGTS. Perform this procedure when shutting down for overnight or longer.

NOTE

When powering–down a platoon training system, ensure that this procedure is completed on training systems #1, #3, and #4 prior to powering–down system #2.

a. Ensure that User Log–in Procedure has been performed (see Figure 2–17).

b. At IOS, from Mode Select display, use the left mouse button and select "Exit Training" option (see Figure 2–18).

c. Observe that Exit the AGTS Trainer display with "Power Down System" button appears on terminal screen (see Figure 2–23)

d. Use left mouse button and select "Power Down System" button.

e. Use left mouse click on "OK" prompt.

f. At General Purpose Computer (GPC), verify halt indicator is not lit (see Figure 2–3).

g. Observe that shutdown prompt ends with the message
"PC = fffffc00003/xxxx
>>>" appears on the terminal screen.

h. At the IOS, set all monitor On/Off switches to Off.

i. At the GPC, set the DC Power On/Off pushbutton to Off.

j. Set SPC MAIN POWER circuit breaker to OFF (see Figure 2–4).

k. At Electronic Interface Device (EID) cabinet, set OFF/ON/START keyswitch to OFF (see Figure 2–6).

l. Set Laser Printer On/Off pushbutton to Off (see Figure 2–7).

m. At IOS, set "IOS Power" circuit breaker to OFF.

n. At Power Panel, set all On/Off circuit breakers to OFF.

o. At Power Monitor Control Panel, set ON/OFF circuit breaker to OFF.

Caution

It is extremely important that the temperature and humidity in training area is maintained at/within the operating range. Failure to do so could damage AGTS equipment.

p. Verify that temperature in training area is between 5°F to 104 °F (–15 °C to 40 °C) with a relative humidity of 5 to 80 percent. Failure to ensure temperature remains within environmental conditions non–operating range may damage the electronic equipment.

q. This completes the system power–down procedures. See page 6–1 for Electronic Power–up Procedure.

6.8 REMOVAL AND INSTALL LASER PRINTER TONER CARTRIDGE

This procedure describes removal and installation of the laser printer toner cartridge (see Figure 2–7). The laser printer toner cartridge (Part # C3903A or C3903F) can be ordered through normal supply channels.

a. Open the printer cover by pressing the printer cover release switch (11) (see Figure 2–7) and lifting up on the printer cover.

b. Grasp and pull upward on empty toner cartridge and remove it from the laser printer.

NOTE

Do not shake toner cartridge vigorously.

c. Remove replacement cartridge from the storage container and rock it from end to end five or six times and front to back five or six times to distribute toner evenly. Avoid tipping the cartridge on end.

NOTE

When pulling sealing tape from toner cartridge, do not pull the tab at an angle, this may cut or snap the tape.

d. Remove the sealing tape by holding cartridge on a flat, stable surface, and gently pull the tape straight out of the cartridge.

e. Align the printer and cartridge marking arrows and slide cartridge into laser printer until it stops.

f. Close the laser printer cover.

g. Place the old cartridge into the box that the new cartridge came in.

h. This completes Remove and Install of Laser Printer Toner Cartridge procedure.

OPERATION UNDER UNUSUAL CONDITIONS

6.9 RECOVERY FROM CATASTROPHIC POWER FAILURE PROCEDURE

In the event of a power failure or operator–initiated emergency electrical shutdown, the Power Monitor circuit breakers will trip automatically. Operation cannot be resumed unless power is restored and equipment Power Monitor breaker is manually reset. The following procedure describes how to restore power and continue operation after a catastrophic power failure:

NOTE

If the crew station smoke detector was activated, resulting in a system catastrophic power failure, the smoke detector must be allowed to reset (alarm no longer sounding) before system power can be restored. If smoke detector activation was not the cause of the power failure, skip step (a.) and continue with step (b.).

a. At IOS, set all monitor On/Off switches to Off (see Figure 2–1). Next, set the IOS Power strip ON/OFF circuit breaker to OFF.

b. At front of the GPC, set the ON/OFF power pushbutton/indicator switch to OFF (see Figure 2–3).

c. At rear of SPC, set POWER AC ON/OFF circuit breaker to OFF (see Figure 2–4).

d. Set laser printer On/Off rocker switch to Off (see Figure 2–7).

e. At the EID cabinet AC Master Power panel, set POWER OFF/ON/START switch to OFF (see Figure 2–6).

f. At Power Panel, set all circuit breakers to OFF (see Figure 2–5).

g. At Power Monitor Panel, reset MAIN POWER circuit to ON position (see Figure 2–11).

h. At Power Panel, set all circuit breakers to ON (one at time).

i. Perform Electronic Power–Up Procedures (see page 6–1).

j. This completes Recovery From Catastrophic Power Failure Procedure.

6.10 HAND–HELD FIRE EXTINGUISHER OPERATION

The AGTS is equipped with a carbon monoxide fire extinguishers in each crewstation.

NOTE

Carbon monoxide fire extinguisher should be use on electrical fires only, do not use on paper fires.

To operate a hand–held fire extinguisher:

a. Remove the fire extinguisher from crewstation wall by releasing clip on supporting strap.

b. Pull the pin via the ring and hold extinguisher upright.

c. Stand back 8 feet (2 Meters) from fire source.

d. Aim nozzle at base of fire.

e. Squeeze handle and sweep nozzle back and forth across fire source.

OPERATION UNDER UNUSUAL CONDITIONS

6.11 RESPONSE TO EQUIPMENT OVERTEMPERATURE ALARM

If the GPC system internal temperature approaches a level that can cause components to overheat, and if the temperature continues to increase, the GPC will automatically shut down. If an overtemperature condition occurs:

WARNING

An overtemperature condition can rapidly develop into an equipment fire and produce toxic smoke. When an overtemperature condition occurs on the AGTS, alert students and ensure they exit the Crew Station and Training Area.

a. Alert the students over the intercom to exit the Crew Station and leave the Training Area.

CAUTION

After the GPC shuts down due to an overtemperature condition, the Over Temperature Warning Indicator on the System Control Panel remains lit. To recover from a shutdown, set Power Switch to Off (O) and wait 5 minutes before restarting the system.

b. Set GPC Power Switch to the Off position. Wait 5 minutes before attempting to restart system.

c. Check that room temperature is within the limits specified on the Electronic Equipment Preconditioning Procedure.

d. If system overtemperature condition exists after 5 minutes, call Organizational Maintenance.

e. If the overtemperature condition is in the SPC, the CABINET TEMP HIGH indicator (4) will light. The operator should set the POWER AC ON/OFF circuit breaker to OFF position and notify Organizational Maintenance.

6.12 EMERGENCY ELECTRICAL SHUTDOWN

a. Locate the nearest EMERGENCY POWER OFF pushbutton switch on the wall and press it firmly.

b. Observe the immediate shutdown of all electrical power and the illumination of emergency lighting (battery operated) in each crewstation.

c. Make sure no personnel remain in the Crew Station, then use the extinguisher and extinguish the fire.

d. If anyone has been injured, tend to their immediate first aid needs and notify the medical personnel.

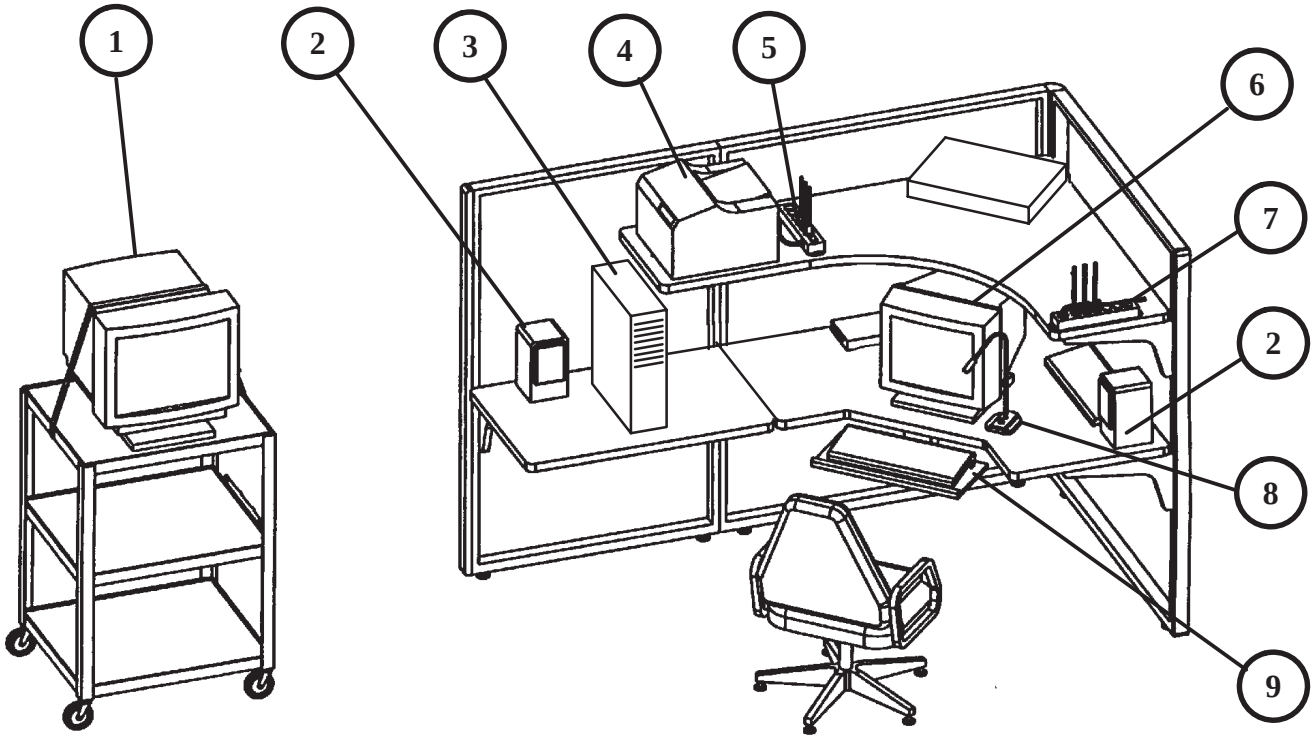


Figure 7–0 Prebrief/After Action Reviewer (PAAR) Station

CHAPTER 7
PRE–BRIEFING/AFTER ACTION REVIEWER STATION

7.1 PLATOON PRE–BRIEFING/AFTER ACTION REVIEWER (PAAR) STATION

The Advanced Gunnery Training System (AGTS) Pre–Brief/After Action Reviewer (PAAR) station provides both a Plan View (2D view) and a Stealth (3D view) Display. The operator can initiate a scan of the log file from previous fired exercises to permit the operator to select data for play back to brief the platoon crew members during after action briefing. The PAAR station also is capable of logging and re–playing digital voice communications using the logger and exercise manager software.

CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	Plan View Display	Provides a 2D view of selected data from previously fired exercise to be used for after action review.
2	Speaker	The amplified speakers sit on either side of the operator for greater listening ease. The right speaker has a volume control knob to adjust speaker volume.
3	Pre–Brief/After Action Reviewer and Data Logger computer	The PAAR computer is networked for generation of platoon performance reports to be used by the instructor/operator to identify problem areas requiring improvements. The computer also logs exercise data to be used for playback during.
4	Printer	(See page 2–12)
5	Power strip	Provides PAAR station with On/Off overload protection.
6	Display Monitor	Used to replicate training exercise data.
7	Power strip	Provides PAAR station with On/Off overload protection. **WARNING** Utility light halogen bulb at the PAAR reaches very high temperatures when left on for extensive periods of time. If touched, may result in severe burns.
8	Utility light	Provides necessary lighting at the PAAR station.
9	KeyBoard	Provides the means of communicating with the training selections, training, training record management, and PAAR station power–down.

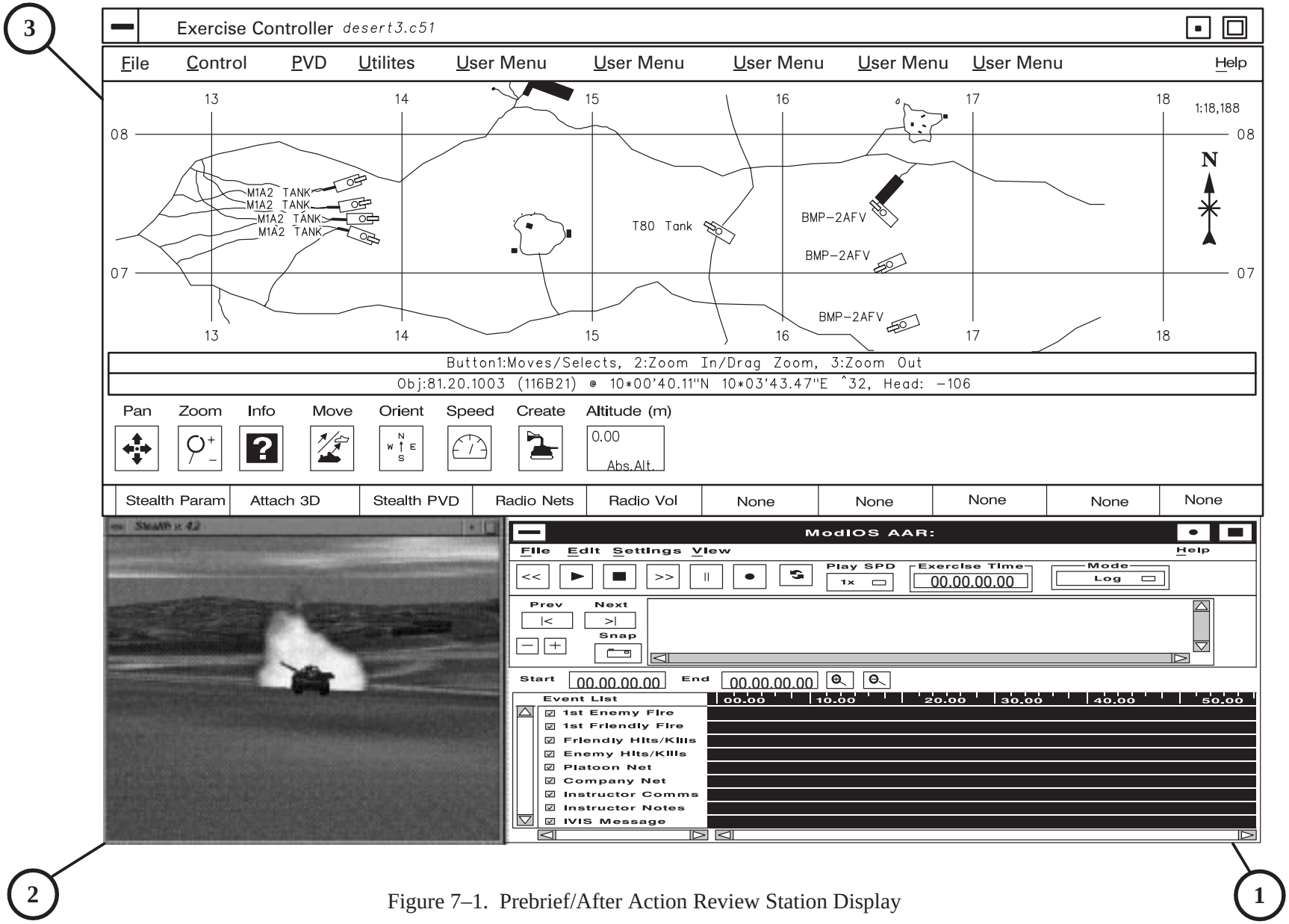


Figure 7–1. Prebrief/After Action Review Station Display

CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	ModIOS AAR window	Provides a control panel with controls and indicators required to control digital voice communications using the logger and exercise manager software to playback platoon training exercises.
2	Stealth (3D) window	Provides 3–D presentation playback of platoon training exercises.
3	Exercise Controller window	Provides a graphical 2D presentation of the platoon training exercises.

7.2 PRE–BRIEFING/AFTER ACTION REVIEWER (PAAR) STATION DESKTOP TOOLBAR

The "Desktop" toolbar provides numerous Pre–Briefing After Action Reviewer (PAAR) station functions. The "Desktop" toolbar options called out below are required for the Training Manager to conduct a pre–briefing/ debriefing, system diagnostics and system power–down. Other options on the "Desktop" toolbar are used by the Field Service Representative and are not required for PAAR station training operation. When the Training Manager log–in at the PAAR station, the "Desktop" toolbar will in many cases appear behind the "Stealth and ModIOS AAR" windows.

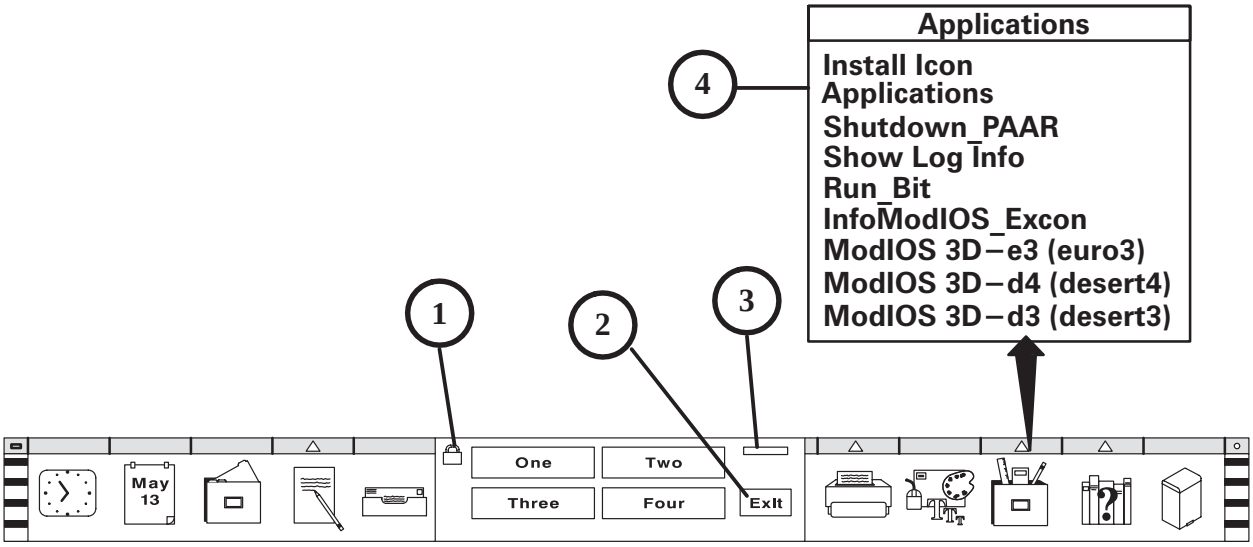


Figure 7–2. Platoon After Action Reviewer (PAAR) Station

Key	Control or Indicator	Function
1	Lock icon	When selected with the left mouse button, the terminal screen will lock. To continue PAAR operation, the operator must type the PAAR station Training Manager password followed by a carriage return.
2	Exit option	When selected, initializes the system log–off procedures.
3	Power indicator	Lights intermittently while the PAAR station computer processes information.
4	Applications pop–up window	Permits the Training Manager to select system shutdown, files to view, run system built–in–test, restart PAAR station windows, and load the "Exercise Controller" and "Stealth" terrain databases.

7.3 PRE–BRIEFING/AFTER ACTION REVIEWER (PAAR) STATION PRE–CONDITIONING PROCEDURE

This procedure describes the AGTS Pre–Briefing/After Action Reviewer (PAAR) station preconditioning procedures prior to electronic equipment power–up.

a. At PAAR station, verify that both Power ON/OFF switch is set to OFF.

b. Ensure Laser Printer On/Off switch to Off.

c. Verify that all Power Panel ON/OFF circuit breakers are Off.

d. At the Power Monitor Panel, set the ON/OFF circuit breakers to ON.

e. At the Power Panel, set each ON/OFF circuit breaker to ON position one at a time.

f. This completes AGTS Pre–Briefing/After Action Reviewer (PAAR) station Preconditioning Procedures.

7.4 PRE–BRIEFING/AFTER ACTION REVIEWER STATION POWER–UP PROCEDURE

This procedure describes the steps to follow when turning on/powering–up the Pre–briefing/After Action Reviewer Station electronic equipment. This procedure assumes that all of the platoon crew stations have been powered–up and the PAAR area has been temperature and humidity conditioned. Upon completion of this procedure, the electronic equipment will be energized and ready for user log–in and operation.

Caution

It is extremely important that the temperature and humidity within the training area is within the prescribed operating range. The AGTS equipment will not operate properly if temperature is set incorrectly.

a. Ensure Pre–Briefing/After Action Reviewer (PAAR) station pre–conditioning procedure have been performed.

b. Verify that the hydrometer/thermometer temperature reading is between 59° and 86° F and the humidity is between 20 to 70 percent prior to operating the system.

c. Set laser printer On/Off power switch to On.

d. At the Pre–briefing/After Action Reviewer (PAAR) Station set both Power ON/OFF circuit breakers to the ON position.

e. At the front of the Pre–briefing After Action Reviewer computer, set the On/Off switch to On.

Caution

When the display monitor On/Off switch is set to On, the monitor is automatically demagnetized. To avoid possible damage to the training monitors do not attempt to degauss (demagnetize the monitors) the monitor for a period of at least 30 minutes.

f. At PAAR station display monitor, set the On/Off switch to On.

g. At PAAR station remote display monitor, set the On/Off switch to On.

h. At PAAR station speaker, set the On/Off switch to On position.

i. Adjust speaker volume knob to a comfortable level.

j. This completes PAAR station power–up procedures.

7.5 PRE–BRIEFING/AFTER ACTION REVIEWER STATION LOG–IN PROCEDURE

This procedure is performed each time a user initiates operation of the Pre–briefing/After Action Reviewer (PAAR) Station. Access is permitted only to those personnel having authorized passwords. When log–in is completed, Exercise Controller, ModIOS AAR and Stealth windows appear on the terminal screen.

a. Ensure that the PAAR station Power–Up Procedure has been performed.

b. Observe that the PAAR station log–in display (Welcome to Paarws01), “Please enter your user name” prompt is displayed on the terminal screen.

c. Ensure that the “User Name” field is highlighted. If the field is not highlighted, use the left mouse button click once in the log–in field.

d. Using PAAR station terminal keyboard, type in one of the following:

   1. “paar” for PAAR station Setup and Take Home Package Mode.

   2. “paarvcr” for PAAR station VCR mode.

e. Press the return key on the PAAR station terminal keyboard.

f. On the PAAR station terminal screen, observe that the “Password” field is highlighted.

g. Using PAAR Station terminal keyboard, enter the PAAR station operator’s password.

NOTE

If an incorrect password is entered, the message “Login incorrect, Please try again,” prompt will appear on the terminal screen.

h. To continue log–in procedures, press the Return key.

i. During system log–in the built–in–test runs automatically, if a problem is detected during log–in, refer to Pre–briefing/After Action Reviewer Station Built–In–Test Procedures (see page 7–22).

j. After several seconds, observe that the “Exercise Controller”, “ModIOS AAR” and “Stealth” windows appear on the PAAR station terminal screen.

k. This completes the PAAR station log–in procedures.

7.6 PRE–BRIEFING/AFTER ACTION REVIEWER STATION VCR LOG–IN MODE PROCEDURE

This procedure is performed when the operator desires to review the entire training session without creating a take home packet. When log–in is complete, the "Exercise Controller", "ModIOS AAR" control panel, and "Stealth" window and the "Desktop" toolbar appear on the terminal screen. These procedures assume that Log–in procedures have been completed.

a. At lower portion of the terminal screen, place the mouse cursor on the "File" option at the upper left position of the "ModIOS AAR" window control panel, click and hold down the left mouse button.

b. Observe that a pull up window appears with the following options available:

New...

Open Log...

Close Log...

Delete Log...

Open Debrief...

Save Debrief...

Delete Debrief

Exit

c. With the left mouse button still depressed, place the mouse cursor over the "Open Log" option and release the mouse button.

d. Observe that the "Open Log File" window appears on the terminal screen.

NOTE

The "Open Log File" window is a split window. The left side of the window heading is "Directories" and the right side of the window heading is "Files." At the right side of each (Directories and Files) window is an up/down scroll arrow.

NOTE

New log files are logged in the "Files" column at the end of the column list.

e. In the "Open Log File" window, under the "Files" sub window, locate the ".log" file to be used for the Pre–briefing/After Action Reviewer. Place the mouse cursor over the desired ".log" file and double click the left mouse button.

NOTE

When attempting to open a new file, if the "Open Log?" window appears with the prompt "Unsaved Changes! Still want to open log file?" displayed, the operator should select the "Yes" option to continue.

f. Observe that the "Open Log File Dialog" window disappears from the terminal screen.

NOTE

When a log file is selected for loading, it can take up to 30 seconds for the file to load and appear in "ModIOS AAR" window.

g. At the "ModIOS AAR" control panel, place the mouse cursor over the "Setting" option, press and hold the left mouse button.

h. Observe that when the “Setting” option is selected a pull up window appears with the following options available:

Network...

Log File...

Filter....

Disable Timeout Msgs

Single Snapshot Only

i. With the mouse button still depressed, move the mouse cursor to the “Log File” option and release the mouse button.

j. Observe that the “Current Log File Info” window appears on the terminal screen.

NOTE

The AGTS system has three databases loaded, they are euro3, des3 or des4.

k. At the lower portion of the “Current Log File Info” window, above the “Terrain Database Name,” is the “Log File Description” field. The exercise number for the exercise fired during the training session is displayed in the “Log File Description” field. Write the exercise number down for future use.

l. Below the “Log File Description” window, locate the “Terrain Database Name” data field and write down the database information displayed in this field for future use.

m. At the lower portion of the “Current Log File Info” window, place the mouse cursor over the “OK” option and click the left mouse button.

n. Observe that the “Current Log File Info” window disappears from the terminal screen.

o. At the upper left portion of the “Exercise Controller” window, place the mouse cursor over the “File” option, click and hold down the left mouse button.

p. Observe that a pull down window appears with the following options available:

Load

Save

Exit

q. With the left mouse button still depressed, place the mouse cursor over the “Load” option while sliding the mouse cursor to the right.

r. Observe that a right pull out window appears with the following options available:

Session

Object Types

Control Sequences

Terrain Database

s. With the left mouse button still depressed, move the mouse cursor over the “Terrain Database” option and release the left mouse button.

t. Observe that the “Load Terrain DB” window appears on the terminal screen.

NOTE

The “Load Terrain DB” window is a split window. The left side of the window heading is “Directories” and the right side of the window heading is “Files.”

u. Under the “Files” window heading of “Load Terrain DB” window, place the mouse cursor over the desired database (written down previously) and double click the left mouse button.

v. Observe that the “Load Terrain DB” window disappears and that the database loads onto the “Exercise Controller” window.

NOTE

To ensure that the vehicle icons can be seen by the operator when they appear on the terrain database, use the right mouse button and zoom the database out.

w. At the top portion of the “ModIOS AAR” window, (if the zoom button is not pressed in) place the mouse cursor on the “Zoom” button and press the left mouse button.

x. Move the mouse cursor to the center of the database, and press the right mouse button twice. Observe that the database zooms out (gets smaller).

y. Use the left mouse button and select the “Play ▶ ” button at the top portion of the ModIOS AAR window.

z. At the “Exercise Controller” window, observe that the vehicle icons appear on the “Exercise Controller” window database.

aa. When the vehicle icons appear on the terrain database, move the mouse cursor to the “Pause ⏸ ” button (located to the right side of the “Play” button) on the ModIOS AAR window and press the left mouse button.

ab. At the lower left portion of the terminal screen, place the mouse cursor on the blank space below the lock icon on the “desktop” toolbar and click the left mouse button, this will cause the “Desktop” toolbar to move to the front.

NOTE

Located on the right portion of “Desktop” toolbar, above an open file cabinet icon, is an up arrow icon.

ac. At the right portion of the “Desktop” toolbar, click (once) on the up arrow icon with the left mouse button.

ad. Observe that the “Applications” window appears with the following options available:

Install Icon

Applications

Shutdown_PAAR

Show Log Info

Run_Bit

InfoModIOS_Excon

ModIOS 3D – e3 (euro3)

ModIOS 3D – d4 (desert4)

ModIOS 3D – d3 (desert3)

ae. Use the left mouse button and click once on the database option “(ModIOS 3D – e3 = euro3), (ModIOS 3D – d3 = des3), & (ModIOS 3D – d4 = des4)“ desired from the “Applications” pull up window.

af. After several seconds, observe that the “Applications” window and the “Stealth” window disappear from the terminal screen and that after several seconds the “Stealth” window reappears on the terminal screen.

NOTE

Depending on how long the crew in the crew station wait after the exercise was unfrozen before the platoon moved out to engage targets will determine how long it take before you hear platoon members voices over the speaker or see platoon vehicle movement on the “Stealth and ModIOS AAR” windows.

ag. Place the mouse cursor at the top of the “ModIOS AAR” control panel window, click the left mouse button. Observe that the control panel moves to the front.

ah. At the lower right portion of the “Exercise Controller” screen, place the mouse cursor over “Radio Nets” and press the left mouse button.

ai. Observe that the “Radio Channel Setting” window appears on the terminal screen, use the left mouse button and click on the radio net(s) you desire to listen to during playback. Next, select the “OK” button at the lower left portion of the “Radio Channel Setting” window.

aj. Observe that the window disappears from the terminal screen.

ak. At the lower right portion of the “Exercise Controller” screen, place the mouse cursor over “Radio Volume” and press the left mouse button.

al. Observe that the “Control Seq. Input” window appears on the terminal screen, use the left mouse button and click in the “volume” field. Type in the number representing the volume level desired (0 – 100) and then click the “OK” button at the lower left portion of the “Control Seq. Input” window.

am. Observe that the window disappears from the terminal screen.

an. Place mouse cursor in the “Stealth” window and click the left mouse button. Then press the letter “C” on the terminal keyboard.

ao. On the “ModIOS AAR” control panel, press the “Play ► ” button.

NOTE

If the exercise playback does not begin when the play button is pressed, stop the exercise and press the fast forward button. Attempt to play the exercise again. Repeat this process until the exercise playback begins.

ap. Observe that the previously fired training session plays back on the "Stealth and Exercise Controller" window terrain databases.

NOTE

Prior to the next step, ensure that the "Zoom" button is depressed.

aq. In the "Exercise Controller" window, place the mouse cursor near the vehicle icons. Press down and hold down the middle mouse button and draw a box around the four vehicle icons and release the right mouse button. Observe that the terrain database zoom down (get larger).

ar. To speed up the playback, select the "Play SPD 

" button and move the mouse cursor over the speed (.25x, .50x, 1x, 2x, 3x, 4x) desired and release the left mouse button.

NOTE

When the "Stop" button is pressed, the vehicle icons displayed on the terrain database in the "Exercise Controller" window will disappear after fifteen seconds. Icons will reappear when the "Play" button is pressed.

as. At the conclusion of the exercise playback, place the mouse cursor over the "Stop  " button and click the left mouse button.

at. This completes the PAAR VCR mode playback.

au. To Log–off, refer to Pre–briefing/After Action Reviewer Station Log–off procedure (see page 7–23)

7.7 PRE–BRIEFING/AFTER ACTION REVIEWER (PAAR) SETUP PROCEDURE

These procedures describe Pre–briefing/After Action Reviewer setup at the completion of a platoon training session, and assume that the PAAR Station Log–in procedures have been completed. These procedures are required to be performed by the Relocatable Advanced Gunnery Training System (AGTS) Training Manager.

a. Place mouse cursor on the "File" option located at the upper left portion of "ModIOS AAR" window, click and hold down left mouse button.

b. Observe that a pull down window appears with the following options available:

New...

Open Log...

Close Log...

Delete Log...

Open Debrief...

Save Debrief...

Delete Debrief

Exit

c. With the left mouse button depressed, place mouse cursor over the "Open Log" option and release mouse button.

d. Observe that the “Open Log File” window appears on the terminal screen.

NOTE

The “Open Log File” window is a split window. The left side of the window heading is “Directories” and the right side of the window heading is “Files.” At the left side of each (Directories and Files) window is an up/down scroll arrow.

e. In the “Open Log File” window, under the “Files” sub window, locate the “.log” file to be used for the Pre–briefing/After Action Reviewer. Place the mouse cursor over the desired “.log” file and double click the left mouse button.

NOTE

If the file has been loaded, the prompt “File already loaded “Unsaved Changes! Still want to open log file?” will appear on the terminal screen. To continue PAAR setup procedures, use left mouse button and select “Yes” option at lower left of the prompt.

f. Observe that the “Open Log File Dialog” window disappears from the terminal screen.

NOTE

When a log file is selected for loading it will take approximately 30 seconds for the file to load into the “ModIOS AAR” window.

NOTE

When the log file loads into the “ModIOS AAR” window, the black portion of the “ModIOS AAR” window will refresh with yellow “event” and purple “snapshot” marks across the white “ time line.” Additionally, the exercise log date appears at the top portion of the “ModIOS AAR” window.

g. Observe that after approximately 30 seconds, the log file loads in the “ModIOS AAR” window.

h. At the upper left portion of “ModIOS AAR” window, use the left mouse button and select the “Setting” option.

i. Observe that when the “Setting” option is selected a pull down window appears with the following options available:

Network...

Log File...

Filter....

Disable Timeout Msgs

Single Snapshot Only

j. Place the mouse cursor over the “Log File” option and release the left mouse button.

k. Observe that the “Current Log File Info” window appears on the terminal screen.

NOTE

The AGTS system has three databases loaded: euro3, des3 or des4.

l. At the lower portion of the “Current Log File Info” window, locate the “Log File Description” and “Terrain Database Name” data fields, write down the information in these fields for future use.

m. At the lower left portion of the “Current Log File Info” window, place the mouse cursor over the “OK” option and click the left mouse button.

n. Observe that the “Current Log File Info” window disappears from the terminal screen.

o. At the upper left portion of the “Exercise Controller” window, place the mouse cursor over the “File” option, click and hold the left mouse button down.

p. Observe that a pull down window appears with the following options available:

Load

Save

Exit

q. With the left mouse button still depressed, place the mouse cursor over the “Load” option while sliding the cursor to the right.

r. Observe that a right pull out window appears with the following options available:

Session

Object Types

Control Sequences

Terrain Database

s. With the left mouse button still depressed, move the mouse cursor over the “Terrain Database” option and release the left mouse button.

t. Observe that the “Load Terrain DB” window appears on the terminal screen.

NOTE

The “Load Terrain DB” window is a split window. The left side of the window heading is “Directories” and the right side of the window heading is “Files.”

u. Under the “Files” window heading of the “Load Terrain DB” window, place the mouse cursor over the desired database (written down previously) and double click the left mouse button.

v. Observe that the “Load Terrain DB” window disappears and the database loads onto the “Exercise Controller” window.

w. At the lower left portion of the “Exercise Controller” window, place the mouse cursor over “Radio Nets” and press the left mouse button.

x. Observe that the “Radio Channel Setting” window appears on the terminal screen, use the left mouse button and click on the radio net(s) you desire to listen to during the exercise playback. Next, select the “OK” button at the lower left portion of the “Radio Channel Setting” window.

y. Observe that the “Radio Channel Setting” window disappears from the terminal screen.

z. At the lower left portion of the “Exercise Controller” window, place the mouse cursor over “Radio Volume” and press the left mouse button.

aa. Observe that the “Control Seq. Input” window appears on the terminal screen, use the left mouse button and click in the “volume” field. Type in the number representing the volume desired (0 – 100) and click the “OK” button at the lower left portion of the window.

ab. Observe that the window disappears from the terminal screen.

NOTE

To ensure that the vehicle icons can be seen by the operator when they appear on the terrain database, use the right mouse button and zoom the database out.

ac. At the top portion of the “ModIOS AAR” window, (step not require if zoom button is already depressed) place the mouse cursor on the “Zoom” button and press the left mouse button.

ad. Move the mouse cursor to the center of the terrain database, and press the right mouse button twice. Observe that the database zooms out (becomes smaller).

NOTE

When the “Play” button is pressed, the vehicle icons will appear on the terrain database.

ae. Use the left mouse button and select the “Play ► ” button at the top portion of the “ModIOS AAR” window.

af. At the upper portion of the “Exercise Controller” window, observe that the vehicle icons appear on the terrain database in the “Exercise Controller” window.

ag. When the vehicle icons appear on the terrain database move the mouse cursor to the “Pause ⏸ ” button (located to the right side of the “Play” button) at the upper portion of the “ModIOS AAR” window and press the left mouse button.

NOTE

The “Desktop” toolbar is displayed behind the “Stealth” and “ModIOS AAR” windows.

ah. Place the right mouse cursor at the very top of the “Stealth” window, press and hold the right mouse button down.

ai. With the mouse button still depressed, move the mouse cursor over the “Lower” option on the pull down window and release the right mouse button.

aj. Observe that the left side of the “Desktop” toolbar moves to the front of the “Stealth” window.

NOTE

If the lock icon is selected, the screen lock will be activated and lock the terminal screen. To unlock the screen if required, type in the PAAR Station password followed by a carriage return.

ak. Use the left mouse button and click on the blank space below the lock icon on the “Desktop” toolbar and observe that the “Desktop” toolbar moves to the front of the “ModIOS AAR” window.

NOTE

Located on the right portion of the "Desktop" toolbar, above the open file cabinet icon, is an up arrow icon. When the up arrow icon is selected with the left mouse button, the "Applications" pull up window appears.

al. At the right portion of the "Desktop" toolbar, click (once) on the up arrow icon with the left mouse button.

am. Observe that the "Applications" pull-up window appears with the following options available:

Install Icon

Applications

Shutdown_PAAR

Show Log Info

Run_Bit

InfoModIOS_Excon

ModIOS 3D – e3 (euro3)

ModIOS 3D – d4 (desert4)

ModIOS 3D – d3 (desert3)

an. Use the left mouse button and click once on the database option "(ModIOS 3D – e3 = euro3), (ModIOS 3D – d3 = des3), & (ModIOS 3D – d4 = des4)" desired from the "Applications" pull up window.

ao. After several seconds, observe that the "Applications" and "Stealth" window disappears from the terminal screen and after approximately 15 to 20 seconds that the "Stealth" window reappears on the terminal screen.

ap. Place the mouse cursor on the very top edge of the ModIOS window, press the left mouse button.

aq. Observe that the "Desktop tool" bar moves back to its original position (behind the "Stealth" window).

NOTE

When the "Play" button is pressed, the vehicle icons will appear on the terrain database in the "Exercise" controller window.

ar. Use the left mouse button and select the "Play " button at the top portion of the "ModIOS AAR" window. Observe that the vehicle icons appear on the "Exercise Controller" window.

NOTE

Prior to the next step, ensure that the "Zoom" button at the lower portion of the "Exercise Controller" window is depressed.

as. In the "Exercise Controller" window, place the mouse cursor near the vehicle icons. Press down and hold down the middle mouse button and draw a box around the four vehicle icons and release the right mouse button. Observe that the terrain database zoom down (get larger). Perform this step as many times as necessary to achieve a satisfactory view of the terrain database.

NOTE

During exercise playback in order to view the terrain database from different modes of operation, refer to "Stealth Param" options (see page 7–25).

at. At the conclusion of the playback, place the left mouse cursor over the "Stop  " button and click the left mouse button.

au. This completes Pre–Brief/After Action Reviewer station Setup procedures.

av. To create a PAAR Station briefing packet, refer to Prepare Pre–briefing/After Action Reviewer Take Home Packet Procedures. To perform log–off procedures refer to Prepare Pre–briefing/After Action Reviewer station Log–off Procedures.

7.8 PREPARE PRE–BRIEFING/AFTER ACTION REVIEWER STATION TAKE HOME PACKET PROCEDURE

This procedure describes the steps required to prepare a Pre–briefing/After Action Reviewer take home packet at the completion of platoon training. This procedure assumes that the PAAR Station Log–on procedures have been completed.

a. Ensure that the Pre–briefing/After Action Reviewer setup procedures have been completed.

b. At the upper left portion of the "ModIOS AAR" window, place the mouse cursor over the "File" option. Click and hold the left mouse button down.

c. Observe that a pull down window appears with the following options available:

New...

Open Log...

Close Log...

Delete Log...

Save Debrief...

Delete Debrief

Exit

d. With the left mouse button still depressed, place the mouse cursor over the "Save Debrief" option and release the left mouse button.

e. Observe that the "Save Debrief File" window appears on the terminal screen.

f. At lower portion of the "Save Debrief File" window, locate the "Selection" data field. Place the mouse cursor to the right side of the information in the data field (ie: /usr/users/paar) and click the left mouse button.

g. Type in the name you wish to name the take home After Action Reviewer packet followed by the ".dbf" file extension.

h. Ensure that the end results appear as follows (ie: /usr/users/paar/name.dbf).

i. Press the return key on the terminal keyboard.

j. Observe that the "Save Debrief File" window disappears from the terminal screen.

k. At the upper portion of the "ModIOS AAR" window, locate and place the mouse cursor over the "View" option. Click and hold the left mouse button down.

l. Observe that pull down window appears with the following options available:

Hide...

Error Log...

Take Home.

m. With left mouse button still depressed, place mouse cursor over “Take Home” option and release the left mouse button.

n. Observe that at the upper left portion of the terminal screen, the “Take Home Gen” window appears with the following:

Mission Statement

Company Commander’s Intent

Platoon Tasks

Friendly Main Tgt Gun Effectiveness

Total Trucks & Troop Kills

Total Tanks & PCs Kill

Friendly Fratricide

Total M1A2 Hits and Kills

Friendly Coax Tgts Gun Effectiveness

NOTE

When one of the charts listed on the “Take Home Gen” window is highlighted, the name of that chart will be repeated again at the top of the list of take home charts.

NOTE

The chart name that appear at the top of the lists of charts in the “Take Home Gen” window can be changed by the operator. To change a chart name click the left mouse button to the right side of the chart name at the top of the list of charts. Use the back space key and delete the current chart name. Type in the new name and press the return key on the terminal keyboard.

o. Place mouse cursor over “Mission Statement” option and click left mouse button. The “Mission Statement” row will highlight.

p. At the upper left portion of the “Take Home Gen” window, place mouse cursor over the “File” option. Click and hold the left mouse button down.

q. Observe that pull down window appears with the following options available:

Read Note Text

Build TMP

Close

r. Move the mouse cursor over the “Read Note Text” option and release the left mouse button.

s. At the lower right portion of terminal screen, observe that “Open Note Text File” window appears.

NOTE

The "Open Note Text File" window is a split window. The left side of the window heading is "Directories" and the right side of the window heading is "Files."

NOTE

There are three files for each exercise shown under the "Files" heading of the "Open Note Text File" window. These three files have the same exercise name, but different file extensions (ie; A12S41N1U.mis, A12S41N1U.int,A12S41N1U.ptt).

t. Use the left mouse button and click on the up/down arrow(s) (as required) until the platoon exercise number fired during the training session appears in the "Files" window.

u. Ensure the exercise number has a ".mis" file extension. Place the mouse cursor over the exercise number and double click left mouse button.

v. Observe that the "Open Note Text File" window disappears from the terminal screen.

w. At the "Take Home Gen" window, observe that the "Mission Statement" text appears under the "Notes" column portion of the window.

x. Place the mouse cursor over the "Company Commander's Intent" option. Click the left mouse button. Observe that the "Company Commander's Intent" row highlights.

y. At the upper left portion of the "Take Home Gen" window, place the mouse cursor over the "File" option. Click and hold the left mouse button down.

z. Observe that a pull down window appears with the following options available:

Read Note Text

Build TMP

Close

aa. Move the mouse cursor over the "Read Note Text" option and release the left mouse button.

ab. Observe that the "Open Note Text File" window appears at the lower right portion of the terminal screen.

ac. Use the left mouse button and click on the up/down arrow (as required) until platoon exercise number fired during the training session appears in the "Files" window.

ad. Ensure that the exercise number has a ".int" file extension (ie; A12S41N1U.int). Place the mouse cursor over the exercise number and double click the left mouse button.

ae. Observe that the "Open Note Text File" window disappears from the terminal screen.

af. At the "Take Home Gen" window, observe that the "Company Commander's Intent" text appears under the "Notes" column.

ag. Place the mouse cursor over the "Platoon Task" option. Click the left mouse button. Observe that the "Platoon Task" row highlights.

ah. At the upper left portion of the "Take Home Gen" window, place the mouse cursor over the "File" option. Click and hold the left mouse button down.

ai. Observe that pull down window appears with the following options available:

Read Note Text

Build TMP

Close

aj. Move the mouse cursor over the “Read Note Text” option and release the left mouse button.

ak. Observe that the “Open Note Text File” window appears at the lower right portion of the terminal screen.

al. Use the left mouse button and click on the up/down arrow (as required) until the platoon exercise number fired during the training session appears in the “Files” window.

am. Ensure the exercise number has a “ptt” file extension (ie; A12S41N1U.ptt). Place the mouse cursor over the exercise number and double click the left mouse button.

an. Observe that the “Open Note Text File” window disappears from the terminal screen.

ao. At the“Take Home Gen” window, observe that the “Platoon Task” written text appears under the “Notes” column.

ap. Place mouse cursor over the “Stop [■] ” button and press the left mouse button.

aq. At the upper right portion of the “ModIOS AAR” window, place the mouse cursor over the “Log” option. Click and hold the left mouse button down.

ar. Observe that pull down window appears with the following options available:

Log

Debrief

Take Home

as. Move the mouse cursor over the “Take Home” option and release mouse button.

NOTE

In the “ModIOS AAR” time line event window, yellow marks indicate events that occurred during the platoon training, and purple marks indicate locations where a snapshot can be taken.

NOTE

When the “Next [Next >|] ” button is pressed, the next event or snapshot marker in the event window is selected.

NOTE

When “Prev [Prev |<] ” button is pressed, the event or snapshot marker is selected in the opposite direction.

NOTE

As each event or snapshot marker is selected, the “Exercise Controller” and the “Stealth” databases are updated with events that occurred when the platoon exercise was fired.

at. At the left side of the “ModIOS AAR” window below the “Stop” icon, click on the “Next [Next >|] ”and/or “Prev [Prev |<] ” button to select event or snapshot markers you desire to include in the take home packet.

au. Move mouse cursor over the small camera icon  below the word “Snap” and click the left mouse button.

NOTE

Each time the “Snap” button is pressed the “Take Home Gen” window moves to the rear of the “Exercise Controller” window.

av. To return the “Take Home Gen” window to the front, place the mouse cursor at the very top of the “Exercise Controller” window. Press and hold the right mouse button down.

aw. With the right mouse button still depressed, move the mouse cursor over the “Lower” option on the pull down window and release the right mouse button.

ax. Observe that the “Take Home Gen” window moves to the front of “Exercise Controller” window.

ay. Repeat the above steps as many times as required to create the desired briefing charts necessary to create the take home packet.

NOTE

To rename, add or delete charts and for function of the “Take Home Gen” refer to “ModIOS Logger/After Action Reviewer Users Guide.”

az. At the lower portion of the “Take Home” window, place the mouse cursor over “Generate” option and press the left mouse button. (This will cause the snapshots to become charts).

ba. To view the take home packet move the mouse cursor to the top upper right portion of the “Take Home Gen” window and click on the small square box picture.

bb. Observe that the “Take Home Gen” window expands to full terminal screen.

bc. Use the left mouse button and click on the name of each chart you desire to view. Observe that the charts appear under the “Image” column of the “Take Home Gen” window.

bd. At the left side of “Take Home Gen” window, use the left mouse button and click on the up/down arrow to scroll the chart names in the window (as required).

be. After viewing the charts, move the mouse cursor to the upper right portion of the “Take Home Gen” window and click on the same small square boxes picture.

bf. Observe that the “Take Home Gen” window returns to original size.

bg. To view the charts on a Netscape screen, move the mouse cursor to bottom right of the “Take Home Gen” window and click on the “Browser” option.

bh. Observe that after several seconds, the Netscape screen appears on the terminal screen.

bi. To view the take home charts, click on the chart name you desire to view.

bj. To continue viewing the charts, click on the left or right arrow with the left mouse button as desired.

bk. At the upper left portion of the Netscape screen, select “File” then “Print” options and click the left mouse button if you desire to print the charts.

bl. At the lower left portion of the “Netscape” window, place the left mouse button over the “Print” option and press the left mouse button.

bm. After several minutes, observe that the take home charts print at the terminal printer.

bn. At the upper left portion of the Netscape screen, select the “File” then “Exit” options and release the left mouse button.

bo. After several seconds, observe that the Netscape screen disappears from the terminal screen.

bp. At the lower portion of the “Take Home Gen” window, click left mouse button on the “Close” option.

bq. Observe that the “Take Home Gen” window disappears from the terminal screen.

br. Select the “File” option at the top of the “ModIOS AAR” window and move the mouse to “Save Debrief” option. When the save debrief window appears, press the return key on the terminal keyboard. To save the take home packet.

bs. This completes Prepare Pre–Brief/After Action Reviewer station Take Home Packet procedures. To log–off, refer to page 7–23 for Pre–Brief/After Action Reviewer station Log–Off procedures.

7.9 PRE–BRIEFING/AFTER ACTION REVIEWER STATION FILE DELETE PROCEDURE

The Instructor/Operator has the responsibility of deleting files (Log or Debrief) from the system when they are no longer required for training purposes. This procedure describes the steps necessary to delete unwanted files. This procedure assumes that the PAAR station has been powered up and log–in procedures have been performed.

a. At upper right portion of the “ModIOS AAR” window, ensure that the “Log” option is displayed.

b. At the upper left portion of the “ModIOS AAR” window, place the mouse cursor over the “File” option. Click and hold the left mouse button down.

c. Observe that a pull down window appears with the following options available:

New...

Open Log...

Close Log...

Delete Log...

Open Debrief...

Save Debrief...

Delete Debrief

Exit

d. With the left mouse button still depressed, place the mouse cursor over the delete option (Log or Debrief) desired and release the left mouse button.

e. Observe that the “Delete Log or Delete Debrief Dialog” window appears on the terminal screen.

f. At the right side of the delete window under the “Files” column, place the mouse cursor over the file you desire to delete and double click the left mouse button.

g. Place the mouse cursor over the “Yes” option on the delete prompt of the delete pop–up window and press the left mouse button.

NOTE

Steps h. through m. describes steps required to check if the file has been deleted.

h. At the upper left portion of the “ModIOS AAR” window, place the mouse cursor over the “File” option. Click and hold the left mouse button down.

i. Observe that a pull down window appears with the following options available:

New...

Open Log...

Close Log...

Delete Log...

Open Debrief...

Save Debrief...

Delete Debrief

Exit

j. With the left mouse button still depressed, place the mouse cursor over the delete option desired and release the left mouse button.

k. Observe that the delete file window appears on the terminal screen.

l. Verify that the file you previously selected to delete has been deleted.

m. At the lower right portion of the delete file window, place mouse cursor over “Cancel” option and press the left mouse button. Observe that the delete window disappears from the terminal screen.

n. Repeat this process to continue to delete files as desired.

o. This completes the file deleting process. To log–off, (refer to page 7–23) for Pre–briefing/After Action Reviewer station Log–off procedures.

7.10 PRE–BRIEFING/AFTER ACTION REVIEWER STATION SHOW INFORMATION PROCEDURE

This procedure describes the steps required for the operator to review the number of “Log or Take Home Packet” files on the system disk. This procedure assumes that the log–in procedures have been accomplished and the “Desktop” toolbar is visible.

NOTE

Located on the right portion of the “Desktop” toolbar above an open file cabinet icon, is an up arrow icon.

a. At the right portion of the “Desktop” toolbar, click (once) on the up arrow icon with the left mouse button.

b. Observe that the “Applications” pop–up window appears on the terminal screen.

c. Use the left mouse button and click once on “ShowLog_Info” option desired.

d. Observe that the pop–up information window appears indicating the (Name. Database, Exercise, Size and Date for log files) for files available on the system disk.

e. Place mouse cursor in the pop–up window and click the left mouse button.. Press the return key on the terminal keyboard to dismiss the pop–up information window

f. This completes the Pre–briefing/After Action Reviewer station Show Information Procedure.

7.11 PRE–BRIEFING/AFTER ACTION REVIEWER STATION RUN BUILT–IN–TEST (BIT) PROCEDURE

This procedure describes the steps required to run the Pre–briefing/After Action Reviewer Station Built–In–Test (BIT) procedures. These procedures assume that the log–in procedures have been accomplished and that the “Desktop” toolbar is visible.

a. At the left portion of the "Desktop" toolbar, place the mouse cursor on the up arrow option above the open file cabinet and press the left mouse button.

b. Observe that the "Applications" pop–up window appears.

c. Place the left mouse button over the "Run_BIT" option and click left mouse button.

NOTE

If a problem exists, a pop–up "Run_Bit" window will appear and remain displayed (beeps will sound from the PAAR computer indicating a problem exists) until the I/O presses the control "C" key on the PAAR Station terminal keyboard.

d. Observe that the built–in–test window appears indicating (Crew station #1, 2#, 3#, 4# Responded) that the PAAR station is ready for operation.

e. If a problem exists the "Run_Bit" window will remain displayed until the I/O dismisses it by pressing the "CTRL C" key on the PAAR station terminal keyboard.

f. This completes the Pre–briefing/After Action Reviewer station Built–in–test (Bit) Procedure.

7.12 PRE–BRIEFING/AFTER ACTION REVIEWER STATION LOG–OFF PROCEDURE

This procedure describes Pre–briefing/After Action Reviewer station Log–Off at the conclusion of training. This procedure assumes that the "Desktop" toolbar is visible on the terminal screen.

NOTE

During "PAARVCR" mode log–off procedures, skip steps a & b below and proceed with step c.

a. Place the mouse cursor at the top center of the "Stealth" window, press and hold the right mouse button down.

b. With the right mouse button still depressed, move the mouse cursor over the "Lower" option on the pull down window and release the right mouse button.

c. Using the left mouse button, click on the blank space below the lock icon on the "Desktop" toolbar and observe that the "Desktop" toolbar moves to the front of the "ModIOS AAR" window.

d. At the center of the "Desktop" toolbar, move the mouse cursor over the "Exit" option and press the left mouse button.

e. After several seconds, observe that "Continue Logout" option appears on the terminal screen.

f. Place the mouse cursor over the "Continue Logout" option and click the left mouse button.

g. Observe that the Log–in display appears on the terminal screen.

h. This completes Pre–Briefing/After Action Reviewer station Log–Off procedure.

7.13 PRE–BRIEFING/AFTER ACTION REVIEWER STATION POWER–DOWN PROCEDURE

This procedure describes proper sequences for power–down of the AGTS Pre–briefing/After Action Reviewer Station. This procedure assumes that Log–off procedures have been performed and that the "Desktop" toolbar is visible on the terminal screen.. Use this Procedure when shutting down for overnight or longer.

a. Ensure that Pre–briefing/After Action Reviewer Station Log–on Procedures have been performed (see page 7–6).

b. Using the left mouse button, click on the blank space below the lock icon on the "Desktop" toolbar and observe that the "Desktop" toolbar moves to the front of the "ModIOS AAR" window.

NOTE

Located on the right portion of the desktop toolbar above the open file cabinet icon, is an up arrow icon. When the up arrow icon is selected with the left mouse button, the "Applications" database pull up window appears.

c. At the right portion of the "Desktop toolbar" click (once) on the up arrow icon with the left mouse button.

d. Place the mouse cursor over "Shutdown_PAAR" option on the "Applications" pull up window and press the left mouse button.

e. Using the terminal keyboard, type in "Yes" to the "Be sure all training activity is complete. Are you sure?" prompt followed by a carriage return.

f. After several minutes, observe the shut down sequence ends with ">>>" prompt.

g. Set both monitor ON/OFF switches to the OFF position.

h. Set the speaker On/Off switch to Off.

i. At the front of the Pre–briefing After Action Reviewer computer, set the On/Off switch to Off.

j. Set both PAAR station Power ON/OFF switches to OFF.

k. Set Laser Printer On/Off power switch to Off.

l. At Power Panel, set all On/Off circuit breakers to OFF.

m. At Power Monitor Control Panel, set ON/OFF circuit breaker to OFF.

Caution

It is extremely important that the temperature and humidity within the training area is maintained at/within the operating range. Failure to do so could damage AGTS equipment.

n. Verify that temperature within the training area is maintained between 5°F to 104 °F (–15 °C to 40 °C) with a relative humidity of 5 to 80 percent. Failure to ensure temperature remains within operating range may damage the equipment.

o. This completes PAAR station Power–Down procedures.

7.14 PRE–BRIEFING/AFTER ACTION REVIEWER STATION STEALTH PARAM PROCEDURE

The following procedure describes the steps required to select the different modes of operation of the Stealth Param options. These procedures assume that the Pre–briefing/After Action Reviewer Station Setup procedure has been performed. For further information on the Stealth Param options, refer to the MosIOS Logger/ After Action Reviewer Users Guide, MosIOD 3D Stealth Viewer Users Guide, and ModIOS Exercise Controller Users Guide.

a. Ensure that the Pre–briefing/After Action Reviewer Station VCR or Set–up procedures have been performed.

b. Start the exercise (press “Play” button). Observe that vehicle icon appears on the “Exercise Controller” window terrain database.

c. When the vehicle icon appears on the terrain database, move the mouse cursor to the “Pause ⏸ ” button (located to the right side of the “Play” button) at the upper portion of the “ModIOS AAR” window and press the left mouse button.

d. At the lower left portion of the “Exercise Controller” window, use the left mouse button and click on the “Zoom” button.

e. Use the middle mouse button and draw a box around the vehicle icons and release the middle mouse button. Observe that the terrain database zooms lower (becomes larger).

f. Use the left mouse button to select one of the vehicle icons in the “Exercise Controller” window. (When a vehicle icon has been selected a dotted box appears around the vehicle icon).

NOTE

When a new “Stealth Param” mode is selected, the new mode of operation effects will not be observed until the “Stealth PVD” button has been selected.

g. Use the left mouse button and click on the “Stealth Param” button and observe that the “Stealth Parameter Popup” window appears with one of the following modes displayed:

Free_Mode

Ground_Mode

Tether_Mode

Compass_Mode

Orbit_Mode

Mimic_Mode

h. When the window opens only the “Stealth Param” mode selected for current operation will be visible in the “Stealth Parameter Popup” window. To view the remaining modes on the “Stealth Parameter Popup” window, click on the name of the current mode of operation with the left mouse button and observe that the remaining “Stealth Param” modes appear on the terminal screen.

i. Use the left mouse button and click on the desired “Stealth Param” mode. Then click on the “OK” option at the lower left portion of the “Stealth Parameter Popup” window.

j. Use the left mouse button and select the “OK” option at the lower portion of the “Control Seq. Input” window. Observe that the window disappears from the terminal screen.

k. At the lower left portion of the “Exercise Controller” window, use the left mouse button and select the “Attach 3D” button.

l. At the “Stealth” window, observe that the vehicle you selected appears in the “Stealth” window.

m. To rotate or zoom the view of the vehicle that appears in the “Stealth” window, use the left mouse button and click in the “Stealth” window.

NOTE

Refer to the ModIOS 3D Stealth Viewer User’s Guide for information pertaining to active keys required to control view in the “Stealth” window.

n. Use the up/down, right/left arrow keys on the terminal keyboard to rotate and/or zoom the “Stealth” window view.

o. The up/down, right/left arrow keys can also be used in conjunction with the “Shift” key on the keyboard to rotate and zoom the “Stealth” window view.

p. The “Next and Prev” keys, when pressed, will jump the stealth view from vehicle to vehicle (to include dead vehicle models) in the “Stealth” Database.

q. This completes Pre–Briefing/After Action Reviewer Stealth Param procedures.

7.15 PRE–BRIEFING/AFTER ACTION REVIEWER STATION INFO AND STEALTH PVD PROCEDURE

The following procedure describes the steps required to select the “Info” and “Stealth PVD” button to attach anywhere you desired in the terrain database. These procedures assume that the Pre–briefing/After Action Reviewer Station Setup procedure has been performed. For further information on the Stealth Param options, refer to the MosIOS Logger/After Action Reviewer Users Guide, MosIOD 3D Stealth Viewer Users Guide, and ModIOS Exercise Controller Users Guide.

a. Ensure that the Pre–briefing/After Action Reviewer Station VCR or Set–up procedures have been performed.

b. Start the exercise (press “Play” button). Observe that vehicle icons appear on the “Exercise Controller” window terrain database.

c. When the vehicle icons appear on the terrain database move the mouse cursor to the “Pause ⏸ ” button (located to the right side of the “Play” button) at the upper portion of the “ModIOS AAR” window and press the left mouse button.

d. Click on the “Info” button with the left mouse button.

e. Use the right mouse button and click anywhere in the “Exercise Controller” window terrain database that you desired to attach.

f. At the “Stealth” window, observe that the location you selected in the “Exercise Controller” window terrain database appears in the “Stealth” window.

g. Use the left mouse button and click on the “Stealth PVD” button.

h. To rotate or zoom the view of the vehicle that appears in the “Stealth” window, use the left mouse button and click in the “Stealth” window.

NOTE

Refer to the ModIOS 3D Stealth Viewer User's Guide for information pertaining to active keys used to control the view of the "Stealth" window.

i. Use the up/down, right/left arrow keys on the terminal keyboard to rotate and/or zoom the "Stealth" window view.

j. The up/down, right/left arrow keys can also be used in conjunction with the "Shift" key on the keyboard to rotate and zoom the "Stealth" window view.

k. This completes Pre–Briefing/After Action Reviewer Stealth Info and Stealth PVD procedures.

7.16 PRE–BRIEFING/AFTER ACTION REVIEWER STATION SPECIAL FEATURES

The following special features describe the operation of controls and indicators displayed on the "Exercise Controller" (see page 7–4), "ModIOS AAR" (see page 7–4) windows, and the "Desktop Toolbar (see page 7–4). For further information on the use of controls and indicators on the aforementioned windows, refer to the MosIOS Logger/After Action Reviewer Users Guide, MosIOD 3D Stealth Viewer Users Guide, and ModIOS Exercise Controller Users Guide.

a. At the lower left of the "Exercise Controller" window are the following controls and/or indicators. For further instruction on the use of these features, refer to Mos IOD 3D Stealth Viewer Users Guide.

1. "**Pan**" button – Select the "Pan" button at the lower left of the "Exercise Controller" window. Place the mouse cursor in the center of the "Exercise Controller" window database and press the right and/or middle mouse button to center the database in the "Exercise Controller" window.

2. "**Zoom**" button – Place the mouse cursor in the center of the "Exercise Controller" window and press the right mouse button to zoom up on the database or press the center mouse button to zoom down on the database. For best results, it is suggested that the database be zoomed to the highest (up) level prior to attempts to play back an exercise by pressing the right mouse button. Then press the "Play" button and observe that the vehicle icons appear on the "Exercise Controller" window. For further instruction on the use of this option, refer to Mos IOD 3D Stealth Viewer Users Guide.

3. "**Info**" button – When this button is selected, it permits the operator to attach to any point desired in the "Exercise Controller" terrain database. For information on how to use this option, refer to Pre–briefing/After Action Reviewer Station Info And Stealth PVD Procedures (see page 7–26), or refer to the MosIOS Logger/After Action Reviewer Users Guide, MosIOD 3D Stealth Viewer Users Guide, and ModIOS Exercise Controller Users Guide.

4. "**Attach 3D**" button – When this button is selected, it permits the operator to attach to vehicle icon in the "Exercise Controller" window. After this button has been pressed, the operator can observe the vehicle view in the "Stealth" window. For information on how to use this option, refer to Pre–briefing/After Action Reviewer Station Info And Stealth PVD Procedures (see 7–26), or refer to MosIOS Logger/After Action Reviewer Users Guide, MosIOD 3D Stealth Viewer Users Guide, and ModIOS Exercise Controller Users Guide.

5. "**Stealth PVD**" button – Use the middle mouse button and the location in the "Exercise Controller" window database you desire to attach to. Then, observe that the view shown in the "Stealth" window displays the terrain feature you selected in the "Exercise Controller" window. For further instruction on the use of this option, refer to Mos IOD 3D Stealth Viewer Users Guide.

6. "**Radio Nets**" option – Permits the I/O to select which radio net (Company, Platoon, Instructor, Instructor Note) to play during playback.

7. "**Radio Vol**" option – Permits the I/O to select the volume level (0–100) during playback. It is suggested that the volume level be set to 100 and use the volume knob on the left speaker to adjust the sound to a comfortable volume.

b. "ModIOS ARR" window controls and/or indicators. For further instruction on the use of this option, refer to Mos IOD 3D Stealth Viewer Users Guide.

1. " << Rewind" button – When pressed, rewinds the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

2. " ▶ Play" button – When pressed, the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window begins to playback. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

3. " ■ Stop" button – When pressed, stops the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

4. " >> Fast Forward" button – When pressed, fast forwards the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

5. " || Pause" button – When pressed, pauses the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

6. " ● Record" button – When pressed, in conjunction with the "Play" button, records the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

7. " Loop–back" button – When pressed in conjunction with the "Start" and "End" buttons, plays back the selected portion of the video scene viewed on the "Exercise Controller" and "ModIOS ARR" window continuously. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
8. "**Play SPD**" option – Permits the operator to select different playback speeds. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
9. "**Exercise Time**"field – Indicates the running time of the exercise being played back. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
10. "**Log Mode**" option – When selected, permits the operator to select Log, Debrief and Take Home modes of operation. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
11. "**Next** Next >| " button – When selected, the next event or snapshot marker in the event window is selected. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.

12. "**Prev** Prev |< " button – When selected, the event or snapshot marker in the opposite direction is selected. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
13. " − + " option – Press the minus button to change (color changes from yellow to purple) an event line to a snapshot line. Press the plus button to change (color changes from purple to yellow) a snapshot line to an event line. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
14. "**Start and End**" fields – When the "Start" button is selected, and I/O clicks a location in the event window of the ModIOS AAR window (black portion with white time lines), marks a time in the playback mode to start the playback. When the "End" button is selected, and the I/O clicks the left button of the mouse in the event window, marks a location were the playback will end and loops back to the starting point. The "Loop–back" button must be pressed. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
15. " " option – Press the minus option to zoom in on the event lists window, or press the plus option to zoom out on the event window. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
16. "Snap " option – Located below the word "Snap." When selected, the system takes a snapshot of the "Stealth and Exercise Controller" windows. For further instruction on the use of this option, refer to Mos IOD Logger/After Action Reviewer Users Guide.
17. During the play back of a Platoon Exercise(s), an orange solid line indicates that the main gun was fired and achieved a target hit. An orange broken line indicates that the coaxial machine gun was fired and achieved a target hit. The main gun target miss is represented by a solid gray line. The coaxial machine gun target miss is represented by a broken gray line.

APPENDIX A
GLOSSARY OF TERMS AND ABBREVIATIONS

ABBREVIATION OR TERM	DEFINITION
AAR	After Action Review
ACQ	Acquisition
ADV	Advance
AGTS	Advanced Gunnery Training System
AH–64	U.S. Army “Apache” Attack Helicopter
AMMO	Ammunition
APC	Armored Personnel Carrier
APDS–T	Armor Piercing Discarding Sabot–Tracer
APFSDS–T	Armor Piercing Fin Stabilized Discarding Sabot–Tracer
ARTEP	Army Readiness Training Evaluation Plan
AT	Anti–Tank rocket used against armored vehicles
ATGM (AT–5)	Anti–Tank Guided Missile
ATTD	Attitude
AZ (Azm)	Azimuth
BAL SOL	Ballistic Solution
BARO	Barometric pressure
BIOC	Biocular
B HOT	Black Hot
BMP2	Enemy armored personnel carrier with anti–tank missiles
BN	Battalion
BP	Battle Position
BRDM–2	Enemy lightly armored reconnaissance vehicle
BTR–60	Enemy lightly armored personnel carrier
CBT	Combat
CCF	Computer Correction Factor
CCHA	Commander’s Control Handle Assembly
CCP	Computer Control Panel
CDR	Commander
CDU	Commander’s Display Unit
CID	Commanders Integrated Display
CITV	Commander’s Independent thermal Viewer
CLR	Clear (Key on Numerical Keypad)

ABBREVIATION OR TERM	DEFINITION
CMDR	Commander
COAX	Coaxial mounted 7.62mm machine gun on the M1A2 tank
COFT	Conduct of Fire Trainer
COLL	Collection
COMP	Computer
CP	Check Point or Control Point or Command Post
CS	Computational Subsystem
CSS	Crew Station Subsystem
Dawn/Dusk	Early morning or late evening daylight conditions
Day Fog	Full daylight conditions with dense fog
Day Limited	Full daylight condition with battlefield haze
Day Unlimited	Full daylight condition with no distractions
DESIG	Target Designate
EA	Engagement Area
EID	Electronic Interface Device
EL (Elv)	Elevation
ENT	Enter (Key on various computer keypads)
Exer	Exercise
Exp	Expected
EXPS	Exposure
EVAC	Evacuation
F & E	Friendly and Enemy
FAAD	Forward Area Air Defense
FC	Fire Control
FCS	Fire Control System
F&E	Friendly and Enemy
FIST	Fire Support Team (Artillery)
FM	Field Manual
FOV	Field Of View
FRZ	Freeze (Temporarily stop an exercise)
FUP	Forward Unity Periscope
GAS	Gunner’s Auxiliary Sight
GCDP	Gunner’s Control Display Panel
GNR	Gunner
GPCH	Gunner’s Power Control Handle

ABBREVIATION OR TERM	DEFINITION
GPS	Gunner's Primary Sight
GPSE	Gunner's Primary Sight Extension
Grenades (SMOKE)	Grenade, explosive, discharge, smoke screen
GS	General Support
GUI	Graphical Users Interface
GUNR	Gunner
HEAT	High Explosive Anti–Tank ammunition
HIND–D	Enemy missile carrying armored attack helicopter
HVAC	Heating Ventilation Air Conditioner
ID	Identification
IG	Image Generator
IGTS	Interim Gunnery Training System
I/O	Instructor/Operator
IOS	Instructor/Operator Station
IVIS	Intravehicle Information System
KIA	Killed In Action
KM	Kilometer (unit of distance and speed measurement)
LCP	Lower Control Panel
LD/LC	Line Of Departure/Line Of Communications
LDR	Leader
LED	Light Emitting Diode
LO	Log off
LOC	Location
LOS	Line Of Sight
LRF	Laser Range Finder
MBD	Muzzle Boresight Device
MAINT	Maintenance
MALF	Malfunction
Man	Management
METRL	Meteorological
MG	Machine Gun
MGMT	Management
MILS	A unit of measurement – 6400 mils in a circle
M1/M1A1	U.S. Army main battle tank ("Abrams")
M1A2	U.S. Army main battle tank ("Abrams")

ABBREVIATION OR TERM	DEFINITION
MOD	Modify
MOPP	Level of protective alert under NBC conditions
MON	Monitor
MOV	Moving
MPAT	Multi–Purpose Anti–Tank ammunition
MRD	Enemy Motorized Rifle Division
MRLS	Multiple Rocket Launcher System
MRR	Enemy Motorized Rifle Regiment
MRS	Muzzle Reference Sensor
MS	Mils per Second
MULT	Multiple
M60A3	U.S. Army main battle tank
M2/M3	U.S. Army armor reconnaissance and infantry fighting vehicle (“Bradley”)
NBC	Nuclear, Biological, and Chemical warfare conditions
NFOV	Narrow Field Of View
NLT	No Later Than
NM	Nautical Mile
No.	Number
NO ADV	No Advance – used in scoring criteria when selecting exercises by computer recommendation.
NORMAL	Normal Advance used in scoring criteria when selecting exercises by computer recommendation.
OBJ	Objective
OVERTEMP	Over Temperature
OVRD	Override (tank commander’s turret control handle)
PAAR	Platoon After Action Review
PC	Personnel Carrier, Personal Computer
PCH	Power Control Handles
P–COFT	Platoon Conduct Of Fire Trainer
PDEP	Preliminary Draft Equipment Publications
PFA	Performance Analysis (monitor display or hardcopy print out of a crew or platoon’s exercise performance
PGT	Platoon Gunnery Trainer
PL	Platoon Leader or Phase Line
PLT	Platoon

ABBREVIATION OR TERM	DEFINITION
POI	Program Of Instruction
POW	Prisoner Of War
Pres	Present
PS	Platoon Sergeant
PWR	Power
RA (RAE)	Reticle Aim – COFT Scoring
RAGTS	Relocatable Advanced Gunnery Training System
RAM	Random Access Memory
RAPI	Rapid Advance used in scoring criteria when selecting exercises by computer recommendation
Rec	Recommended
REDUCE (REDU)	Reduce used in scoring criteria when selecting exercises by computer recommendation
RET	Reticle
RMS	Remote Monitor Station
Rnd(s)	Round(s)
RP	Release Point
RPG TEAM	4 target panels which depict soldiers with Rocket Propelled Grenades (anti–tank weapons)
S2	Battalion/Brigade level intelligence staff
SABOT	Name for APDS–T and/or APFSDS–T ammunition
SCTR	Sector
SENS	Sensitivity
SEP	System Enhancement Program
SITMON	Situation Monitor (displayed at the Instructor/Operator's Station and provides the Instructor/Operator with a status of the current exercise as it is being run
SM (SME)	System Management
SNGL	Single
SOI	Signal Operating Instructions
SOP	Standing Operating Procedures
SPC	Special Purpose Computer (Image Generator)
Sponson In	Filter system located outside the vehicle operational
Sponson Out	Filter system located outside the vehicle nonoperational
SPT PLT	Support Platoon
STAB	Stabilization

ABBREVIATION OR TERM	DEFINITION
STAFF	Smart Target Activated Fire and Forget
STN	Stationary
SUBDES	Sub–Designator (used with ammunition)
SUS (Sust)	Sustainment
SYM	Symbol
Sys	System
TA (TAE)	Target Acqusition
TC	Tank Commander
TCCC	Tank Commander Certification Course
TCGST	Tank Crew Gunnery Skills Test
TCPC	Tank Crew Proficiency Course
TDSP	Training Device Support Plan
TEMP	Temperature
TF	Task Force
TGT	Target
TIS	Thermal Imaging System
TM	Team or Technical Manual
TMS	Training Management System
TNS	Trains (term for a unit's battlefield logistics support)
TOPO	Topographic (used when referring to the Topographic Map display at the Instructor/Operator Station)
TRANS	Transition
TROOPS	A group of 10 target panels which represent dismounted enemy soldiers
TRP	Target Reference Point
TRU	Thermal Receiver Unit
T–72	Enemy main battle tank
TTXII	Tank Table 12 (platoon gunnery table)
UNFRZ	Unfreeze – a key on the Instructor/Operator Station Keypad used to start or restart an exercise
UVB	Unity Vision Block
VDC	Volts Direct Current
VCR	Video Cassette Recorder
VIC	Vicinity
WFOV	Wide Field Of View
W HOT	White Hot

ABBREVIATION OR TERM	DEFINITION
WIA	Wounded In Action
WM1	Wingman 1 (when training in platoon mode exercises with the platoon leader)
WM2	Wingman 2 (when training in platoon mode exercises with the platoon sergeant)
Y/N	Yes/No
ZSU–23–4	Enemy lightly armored anti–aircraft weapons system
7.62	7.62 caliber machine gun used as a coaxial mounted gun on the M1A2 tank, also mounted outside the loader’s hatch

APPENDIX B
REFERENCE AND TEXT MATERIAL

B.1 GENERAL

This appendix contains an overview of the manuals that the I/O can use as reference material in understanding the utilization and capabilities of the M1A2 SEP (System Enhancement Package) Advanced Gunnery Training System (AGTS). These manuals contain technical and tactical information to assist the user in developing the skills required in accomplishing the critical tasks associated with the M1A2 SEP.

B.2 OPERATOR'S MANUAL FOR M1A2 120 MM GUN, FULL–TRACKED COMBAT TANK, TM 9–2350–388–10

This manual identifies M1A2 SEP Battle Tank operating controls and indicators and explains how to use them. The information is organized by crew station (driver, tank commander, gunner, and loader) of which the AGTS instructor is interested in only the gunner and tank commander positions. The manual covers crew station preventive maintenance checks and services, how to operate the tank and equipment under usual and unusual conditions, and how to respond to certain emergency conditions.

B.3 TANK GUNNERY, FM 17–12–1

This manual describes the various methods to defeat the threat army, gunnery standards, general principles of tank gunnery, and tank gunnery training. It provides the tankers with some ideas of what to expect, what weapons are likely to be on the battlefield, and important characteristics of enemy forces that might be encountered.

B.4 TANK COMBAT TABLES FOR M1A2 MAIN BATTLE TANK, ST 17–12–1–A2

This field circular contains M1A2 tank specific information. It is used by tank crewman in conjunction with FM 17–12–1 Tank Combat Tables – M1, to thoroughly train crew and platoon weapon systems proficiency.

B.5 TANK COMMANDER'S GUIDE, FM 17–13–1

This manual is designed to assist Tank Commanders in training their crew using multiechelon M1A2 training through crew drills. It includes individual tasks, a training overview, and crew drills. Procedures for conducting crew drill's performance checklists are also listed.

B.6 TANK GUNNERY, FM 17–15–1

This field manual assist the platoon leader in applying advanced technology for tank platoon tactics, techniques, and procedures for digital and enhanced system.

B.7 M1A2 TANK CREW CHECKLIST, TM 9–2350–255–CL

This manual provides checklists for crew use in operating, maintaining, and performing corrective action on the M1A2 tank.

APPENDIX C
BORESIGHTING PROCEDURES

GENERAL

This appendix contains the M1A2 SEP AGTS Boresight/Screening & COAX Zero Procedures. In tank gunnery, it is not possible to fire accurately without an accurate sight adjustment. Boresighting provides a basis for all sight adjustments and establishes a definite relationship between the axis of the bore of the gun and the sights. The complete M1A2 SEP boresighting procedures can be performed on the AGTS with the exception of the muzzle boresight device (MBD) by utilizing the following procedures:

Warning

Vehicle Tank Helmet (VTH) must be worn when entering crew station and not removed until exit is completed.

Warning

When entering or exiting the crew station, take extreme care that you do not bump your head on crew station entrance.

PREPARATION FOR BORESIGHT

1. Ensure Login procedures have been performed (see Figure 2–17):
2. Initialization with Vehicle Name or “xxx” (rapid log–in)
3. Select boresight exercise.
4. With a crew in the crew station, start the exercise.
5. Have the crew set up the crew station as follows:

   GUN SELECT to MAIN.
   All ballistic doors open.
   GPS at 10X magnification
   TIS set at 13X magnification.
   GPS FLTR/CLEAR/SHTR switch to CLEAR.
   GAS set to filter out, KE/STAFF reticle.
   FIRE CONTROL MODE switch to EMERGENCY.
   LRF switch to LAST RETURN.
6. Enter temperature, barometric preasure, and ammunition data into to the GDCP:

   a.)Depress METRL DATA pushbutton on GCDP.

   b.)Depress AIR TEMP.

   c.)Type 59 on keypad.

   d.)Press ENT on keypad.

   e.)Press RETURN switch.

   f.)Depress AMMO TEMP.

   g.)Type 70 on keypad.

   h.)Press ENT on keypad.

   i.)Press RETURN pushbutton.

   j.)Depress BARO PRESS.

BORESIGHT PROCEDURES (CONTINUED)

k.)Type 29.80 on keypad.

l.)Press ENT on keypad.

m.)Press RETURN pushbutton twice.

n.)Ensure that the ammo select has SABOT selected.

o.)Depress ADJUST.

p.)Depress AMMO SUBDES.

q.)Use 4–way to highlight M829.

r.)Press ENT on keypad.

s.)Press RETURN.

t.)At the IOS, select the “Data Monitor” icon from the GUI keypad.

u.)Depress ZERO pushbutton on GCDP.

v.)I/O: Read the AZ “Zero” (CCFs) values from the situation monitor for the M829.

w.)Using the keypad, type the numerical values for AZ zeroing.

x.)Depress ENT on keypad (Data Monitor values update after EL values are entered).

y.)I/O: Read the EL “Zero” (CCFs) values from the situation monitor for the M829.

z.)Using the keypad, type the numerical values for EL zeroing.

aa.)Depress ENT on keypad.

ab.)Depress RETURN.

ac.)Press the HEAT ammo select switch.

ad.)Depress AMMO SUBDES.

ae.)Use 4–way to highlight M830.

af.)Depress ENT on keypad.

ag.)Depress RETURN.

ah.)Depress ZERO pushbutton on GCDP.

ai.)I/O: Read the AZ “Zero” (CCFs) values from the situation monitor for the M830.

aj.)Using the keypad, type the numerical values for AZ zeroing.

ak.)Depress ENT on keypad (Data Monitor values update after EL values are entered).

al.)I/O: Read the EL “Zero” (CCFs) values from the situation monitor for the M830.

am.) Using the keypad, type the numerical values for EL zeroing.

an.)Depress ENT on keypad.

ao.)Depress RETURN.

ap.)Press the MPAT ammo select switch.

aq.)Depress AMMO SUBDES.

ar.)Use 4–way to highlight M830A1.

as.)Depress ENT on keypad.

at.)Depress RETURN.

au.)Depress ZERO pushbutton on GCDP.

av.)I/O: Read the AZ “Zero” (CCFs) values from the situation monitor for the M830A1.

BORESIGHT PROCEDURES (CONTINUED)

aw.) Using the keypad, type the numerical values for AZ zeroing.

ax.)Depress ENT on keypad (Data Monitor values update after EL values are entered).

ay.)I/O: Read the EL "Zero" (CCFs) values from the situation monitor for the M830A1.

az.)Using the keypad, type the numerical values for EL zeroing.

ba.)Depress ENT on keypad.

bb.)Depress RETURN.

bc.)Gun select switch to COAX.

bd.)Depress AMMO SUBDES.

be.)Verify M240 is highlighted, if not, then use the 4–way to highlight M240.

bf.)Depress RETURN.

bg.)Depress ZERO pushbutton on GCDP.

bh.)I/O: Read the AZ "Zero" (CCFs) values from the situation monitor.

bi.)Using the keypad, type the numerical values for AZ zeroing.

bj.)Depress ENT on keypad (Data Monitor values update after EL values are entered).

bk.)I/O: Read the EL "Zero" values (CCFs) from the situation monitor.

bl.)Using the keypad, type the numerical values for EL zeroing.

bm.) Depress ENT on keypad.

bn.)Depress RETURN pushbutton twice.

bo.)Gun select to SAFE.

7. Ensure FIRE CONTROL MODE is set to EMERGENCY, squeeze one of the palm switches on the GPCH, and check for drift. (If more than 0.5 mil of drift in 20 seconds is observed, press MAINT push button on the GCDP, then press the DRIFT push button on the SETUP menu, and null out EMERGENCY mode drift using the four–way switch. Press RETURN three times to return to the main menu.)
8. Move the FIRE CONTROL MODE switch to NORMAL, squeeze one of the palm switches on the GPCH, and check for drift. Remove all drift, if any is present.
9. Turn on the CITV, make sure the CITV is in CITV GLOS mode, move the CITV to NFOV 13X, move the FILTERS ANTI GLARE to AUTO, and move the FRAME INTEGRATION switch to SEARCH.
10. With the GPCH, lay the GPS aiming dot on the boresight target, and lase. Make sure the LRF is returned to the SAFE postition before continuing. If lasing is not possible, with a palm switch depressed, index the known tank–to–target range into the GCDP.
11. Set FIRE CONTROL MODE switch to MANUAL.
12. Move the THERMAL MODE switch to STBY, turn the ANTI–GLARE knob to AUTO CLEAR, and turn the SEARCH/STARE knob to SEARCH.
13. At the CDU, select the CB menu and then the FCCB menu. Set the THPD VALVE AZ DRIVE and THDP VALVE EL DRIVE circuit breakers to OFF.
14. Press RETURN twice.
15. Move the FIRE CONTROL MODE switch to NORMAL, grasp the GPCH to make sure there is no hydraulic power present, and move the FIRE CONTROL MODE switch to MANUAL.

BEGIN SPECIFIC GPS BORESIGHT PROCESS

1. **NOTE: Use Manual Controls for this step.**
   I/O, acting as loader, give the gunner instructions necessary to reduce the boresight point on the Situation Monitor so that the sum of the azimuth and elevation is less than 0.03 mil.
2. Set FIRE CONTROL MODE switch to EMERGENCY.
3. Set GUN SELECT switch to MAIN.
4. Set AMMO SELECT to SABOT.
5. Gunner, with the GCDP on MAIN MENU, press ADJUST pushbutton.
6. Press BORESIGHT pushbutton on ADJUST menu.
7. Press GPS pushbutton on BORESIGHT menu.
8. Viewing through the GPS, use the 4–way switch on the GCDP to move the GPS reticle aiming dot to the boresight target aiming point.
9. IO, ensure the sum of the boresight point error on the situation monitor is less than 0.03 mil.
10. Viewing throught the GPS, the gunner uses a ”G” pattern to lay off the target manually and re–lay the GPS aiming dot on the target aiming point with the last movement being up.
11. If alignments are correct, move on to next step. If alignments are not correct, restart boresighting process.
12. Record boresight azimuth and elevation readings from the GCDP.
13. Press the ENT key on the GCDP keypad twice to enter the AZ and EL readings; then verify the boresight numbers on the GPS menu.
14. Using manual controls, re–lay the GPS aiming dot on the target aiming point.

BEGIN SPECIFIC CITV BORESIGHT PROCESS

1. Press the CITV SETUP push button on the VEHICLE SYSTEMS menu.
2. Press the BORESIGHT push button on the CITV SETUP menu.
3. Align the CITV (NFOV) reticle aiming dot to the target aiming point using the four–way switch.
4. Record AZ and EL readings from the CITV (indicated on the CITV set–up menu).
5. Press ENT key twice to enter the AZ and EL readings; then verify the CITV boresight numbers on the BORESIGHT menu and on GCDP BORESIGHT MENU.

BEGIN SPECIFIC GAS BORESIGHT PROCESS

1. Prior to boresighting the GAS or FLIR, make sure the GPS and CITV are still on the target aiming point (i.e. upper left corner). If not, use gunner’s manual controls to lay them on the aiming point.
2. Using the GAS boresight knobs, the gunner aligns the GAS boresight aiming cross to the boresight target aiming point and, making sure the GAS boresight knobs are firmly seated, slips the scales to 0 and 0.
3. Make sure the GPS aiming dot and GAS boresight cross are still aligned on the target aiming point.

BEGIN SPECIFIC TIS BORESIGHT PROCESS

1. Move the THERMAL MODE switch to ON or BIOC OFF position.
2. Move the MODE switch to BS, move the MAGNIFICATION switch to 13X, and move the POLARITY switch to W/H or B/H, as desired.
3. Adjust the picture to the desired levels.
4. Look in the GPS eypiece and make sure the reticle is still on the target aiming point of the boresight panel.
5. Align the FLIR reticle aiming dot on target aiming point of the boresight target using the BORESIGHT switch.
6. Move the MODE switch to NORMAL, and move the THERMAL MODE switch to the required position.
7. Move the THPD circuit breakers to ON.

BEGIN SPECIFIC MRS BORESIGHT PROCESS

1. Ensure the LRF is in SAFE.
2. Move the FIRE CONTROL MODE switch to NORMAL.
3. With GCDP on BORESIGHT menu, press the MRS push button on the GCDP.
4. Grasp and hold the GPCH and palm switches for five seconds, then release; the gun will go to zero degrees elevation.
5. Use the four–way switch on the GCDP to align the GPS reticle within the black MRS reticle.
6. Record the AZ and EL readings from the display.
7. Push ENT key on the GCDP keypad twice to store the AZ and EL readings for the MRS boresight data.
8. Press the RETURN push button on the GCDP three times to return to MAIN menu.

BEGIN MAIN GUN SCREEN TEST

1. Set the GUN SELECT switch to MAIN. Press palm switches.
2. Verify that ammo select is set to SABOT.
3. Set the FIRE CONTROL MODE switch to NORMAL.
4. Set the Laser to Last Return.
5. At the IOS, Select the “Data Monitor” icon to ensure that the Boresight Situation Monitor display page appears on the terminal screen.
6. At the IOS, select the “SABOT” icon. Observe that SABOT is loaded into the main gun.
7. Use the GPCH to make a precise lay on the screening target panel, (right panel) making the last movement upward.
8. Lase to the ST4 Panel (to the right of the boresight panel) to verify a range of 1500 meters.
9. Lay the GPS reticle to the exact center of the screening target, making last movement upward. Fire one round of SABOT using the left trigger.
10. Set ammo select to HEAT. At the IOS, press the AMMO RELOAD and then the HEAT buttons.
11. Lay the GPS reticle to the exact center of the screening target, making the last movement upward. Fire one round of HEAT using the right trigger.

NOTE: The following steps screen the MPAT round. This is optional depending on local SOP and training guidance.

12. Set ammo select to MPAT–G. At IOS press the AMMO RELOAD and then the MPAT–G buttons.
13. Lay the GPS reticle to the exact center of the screening target, making the last movement upward. Fire one round MPAT using the right trigger.

BEGIN COAX ZERO PROCEDURE

1. Set GUN SELECT switch to COAX.
2. Set GPS magnification lever to 10X.
3. Using GPCH lay the reticle on the COAX target to the left of the boresight panel and lase.
4. Fire a 20–30 round burst into the target area and observe strike of rounds. DO NOT change lay of gun or reticle. Release GPCH.
5. With GCDP on MAIN MENU press ADJUST pushbutton.
6. Push ZERO pushbutton on ADJUST menu.
7. Use 4 way switch to move reticle aiming point to the center of the 20–30 round shot group impact.
8. Press ENT key on GCDP keypad to store zero data.
9. Press RETURN twice.
10. Relay on the target, lase and fire another 20–30 round burst. If reticle aiming point is centered in the strike area, the COAX is zeroed. If not, repeat the COAX zero procedures.
11. At IOS, press FREEZE/UNFREEZE and TERMINATE keys.

APPENDIX D
LIST OF PRE–LIVE & GATE–TO–LIVE FIRE EXERCISE DESCRIPTIONS

BASIC PRE–LIVE FIRE EXERCISES

Exercise BPLF1N0U (22221101) – Visibility: Day Unlimited Malfunctions: None

Target Sequence	Task	Target	Range	Motion	View	Sight
1	A4	T–80	2300	Moving 10 mph	Flank	GPS
2	A3	T–72	1600	Stationary	Front	GPS
		T–72	1200	Moving 10 mph	Flank	GPS
3	A4	T–72	2200	Moving 15 mph	Flank	GPS
4	A4	T–80	2400	Moving 10 mph	Flank	GPS
5	A3	T–72	1600	Stationary	Front	GPS
		T–72	1200	Moving 15 mph	Flank	GPS

Exercise BPLF2N0T (22222107) – Visibility: Night Unlimited Malfunctions: None

Target Sequence	Task	Target	Range	Motion	View	Sight
1	B3S	T–80	1400	Stationary	Front	TIS
		T–80	1600	Moving 10 mph	Flank	TIS
		T–80	800	Turret	Flank	TIS
		Troops	400	Stationary	Front	TIS
2	B3S	T–72	1500	Stationary	Front	TIS
		T–72	1700	Moving 15 mph	Flank	TIS
		T–72	700	Turret	Front	TIS
		Troops	600	Stationary	Front	TIS
3	B3S	T–72	1400	Stationary	Front	TIS
		T–72	1800	Moving 15 mph	Flank	TIS
		T–72	900	Turret	Front	TIS
		Troops	600	Stationary	Front	TIS
4	B3S	T–80	1500	Stationary	Front	TIS
		T–80	1700	Moving 10 mph	Flank	TIS
		T–80	800	Turret	Flank	TIS
		Troops	600	Stationary	Front	TIS
5	B3S	T–72	1600	Stationary	Front	TIS
		T–72	1600	Moving 15 mph	Flank	TIS
		T–72	700	Turret	Flank	TIS
		Troops	400	Stationary	Front	TIS

BASIC PRE–LIVE FIRE EXERCISES (CONTINUED)

Exercise BPLF3N0U (22223101) – Visibility: Day Unlimited Malfunctions: NBC

Target Sequence	Task	OV Speed	Target	Range	Motion	View	Sight
1	A5	15 mph	T–80	1700	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			T–72	1600	Moving 15 mph	Flank	GPS
2	A2S	10 mph	BMP	1500	Stationary	Front	GPS
			BRDM2	1400	Stationary	Front	GPS
			Troops	800	Stationary	Front	GPS
3	A5A	10 mph	T–72	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			T–72	1800	Stationary	Front	GPS
4	A2S	15 mph	BTR70	1400	Stationary	Front	GPS
			BTR70	1600	Stationary	Front	GPS
			Troops	700	Stationary	Front	GPS
5	A5	15 mph	T–80	1500	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			T–80	1800	Moving 15 mph	Flank	GPS

Exercise BPLF4N0T (22224107) – Visibility: Night Unlimited Malfunctions: None / GPCH

Target Sequence	Task	OV Speed	Target	Range	Motion	View	Sight
1	B1	15 mph	T–80	1500	Moving 15 mph	Flank	CITV
2	B2	10 mph	BMP	1800	Moving 25 mph	Flank	TIS
			BRDM2	1600	Moving 15 mph	Flank	TIS
			Troops	400	Stationary	Front	TIS
3	B5	10 mph	T–72	1300	Moving 10 mph	Flank	TIS
			Troops	600	Stationary	Front	TIS
			Troops	500	Stationary	Front	TIS
4	B2	15 mph	BTR70	1600	Moving 25 mph	Flank	TIS
			BMP	1800	Moving 15 mph	Flank	TIS
			Troops	600	Stationary	Front	TIS
5	B1	15 mph	T–72	1700	Moving 10 mph	Flank	CITV

BASIC PRE–LIVE FIRE EXERCISES (CONTINUED)

Exercise BPLF5N0T (22225107) – Visibility: Night Unlimited Malfunctions: NBC

Target Sequence	Task	Target	Range	Motion	View	Sight
1	B4	T–80	1300	Stationary	Front	TIS
		T–80	1800	Stationary	Front	TIS
2	B4	T–80	1200	Stationary	Front	TIS
		T–80	2000	Stationary	Front	TIS
3	B4	T–72	1400	Stationary	Front	TIS
		T–72	1800	Stationary	Front	TIS
4	B4	T–80	1300	Stationary	Front	TIS
		T–80	1900	Stationary	Front	TIS
5	B4	T–72	1400	Stationary	Front	TIS
		T–72	2000	Stationary	Front	TIS

Exercise BPLF6N0U (22226101) – Visibility: Day Unlimited Malfunctions: LRF, GPS/GPSE, TIS

Target Sequence	Task	Target	Range	Motion	View	Sight
1	A3	T–80	1500	Stationary	Front	GAS
		T–80	1100	Moving 10 mph	Flank	GAS
2	A3	T–72	600	Turret	Front	GAS
		T–80	1300	Moving 15 mph	Flank	GAS
3	A3	T–72	700	Turret	Front	GAS
		T–72	1100	Moving 20 mph	Flank	GAS
4	A3	T–80	700	Turret	Front	GAS
		T–80	1200	Moving 10 mph	Flank	GAS
5	A3	T–80	1100	Stationary	Front	GAS
		T–72	1300	Moving 15 mph	Flank	GAS

BASIC PRE–LIVE FIRE EXERCISES (CONTINUED)

Exercise BPLF7N0U (22227101) – Visibility: Day Unlimited Malfunctions: None / GPCH

Target Sequence	Task	OV Speed	Target	Range	Motion	View	Sight
1	B1	15 mph	T–72	1700	Moving 10 mph	Flank	CITV
2	B2	10 mph	BMP	1800	Moving 25 mph	Flank	GPS
			BRDM2	1600	Moving 15 mph	Flank	GPS
			Troops	400	Stationary	Front	GPS
3	A5	15 mph	T–80	1700	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			T–72	1600	Moving 15 mph	Flank	GPS
4	A5A	10 mph	T–72	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			T–72	1800	Stationary	Front	GPS
5	B5	10 mph	T–80	1500	Moving 10 mph	Flank	GPS
			Troops	700	Stationary	Front	GPS
			Troops	400	Stationary	Front	GPS

GATE–TO–LIVE FIRE EXERCISES

Gate–to–Live Fire exercises are the Tank Table VIII exercise set from RAGTS. In cases where two exercises are required to present both day and night requirements, a single combined day/night exercise of 10 situations is used.

Exercise GTLF1N0U (33331101) – Visibility: Day and Night Unlimited
Malfunctions: Situation Dependant

Target Sequence	OV Speed	Task	Target	Range	Motion	View	Sight
1	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
2 (LRF, GPS,TIS)	0 mph	A3	Tank	600	Stationary	Turret	GAS
			Tank	1200	Moving 10 mph	Flank	GAS
3	0 mph	B3S	Tank	1500	Stationary	Front	GPS
			Tank	1600	Moving 10 mph	Flank	GPS
			Tank (15)	700	Stationary	Turret	GPS
			Troops (25)	400	Stationary	Front	GPS
4	15 mph	A5	Tank	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			Tank (10)	1700	Moving 15 mph	Flank	GPS
5 (NBC)	15 mph	A2S	PC	1500	Stationary	Front	GPS
			PC	1500	Stationary	Front	GPS
			Troops (15)	800	Stationary	Front	GPS
6	0 mph	B3S	Tank	1500	Stationary	Front	TIS
			Tank	1700	Moving 10 mph	Flank	TIS
			Tank (15)	900	Stationary	Turret	TIS
			Troops (25)	500	Stationary	Front	TIS
7 (NBC)	0 mph	B4	Tank	1400	Stationary	Front	TIS
			Tank	2000	Stationary	Front	TIS
8 (GPCH, TIS)	15 mph	B1	Tank	1400	Moving 10 mph	Flank	CITV
9	15 mph	B2	PC	1700	Moving 15 mph	Flank	TIS
			PC	1700	Moving 15 mph	Flank	TIS
			Troops (15)	500	Stationary	Front	TIS
10	15 mph	B5	Tank	1400	Moving 15 mph	Flank	TIS
			Troops	500	Stationary	Front	TIS
			Troops	500	Stationary	Front	TIS

GATE–TO–LIVE FIRE EXERCISES (CONTINUED)

Exercise GTLF2N0U (33332101) – Visibility: Day and Night Unlimited
Malfunctions: Situation Dependant

Target Sequence	OV Speed	Task	Target	Range	Motion	View	Sight
1	15 mph	A5	Tank	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			Tank (10)	1600	Moving 15 mph	Flank	GPS
2 (NBC)	15 mph	A2S	PC	1400	Stationary	Front	GPS
			PC	1500	Stationary	Front	GPS
			Troops (15)	700	Stationary	Front	GPS
3	15 mph	A5A	Tank	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			Tank (10)	1700	Stationary	Front	GPS
4	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
5 (LRF, GPS,TIS)	0 mph	A3	Tank	1600	Stationary	Front	GAS
			Tank	1300	Moving 10 mph	Flank	GAS
6	15 mph	B2	PC	1800	Moving 15 mph	Flank	TIS
			PC	1700	Moving 15 mph	Flank	TIS
			Troops (15)	500	Stationary	Front	TIS
7	0 mph	B3S	Tank	1400	Stationary	Front	TIS
			Tank	1600	Moving 10 mph	Flank	TIS
			Tank (15)	800	Stationary	Turret	TIS
			Troops (25)	400	Stationary	Front	TIS
8 (NBC)	0 mph	B4	Tank	1300	Stationary	Front	TIS
			Tank	1800	Stationary	Front	TIS
9	15 mph	B5	Tank	1400	Moving 15 mph	Flank	TIS
			Troops	500	Stationary	Front	TIS
			Troops	500	Stationary	Front	TIS
10 (GPCH, TIS)	15 mph	B1	Tank	1600	Moving 10 mph	Flank	CITV

GATE–TO–LIVE FIRE EXERCISES (CONTINUED)

Exercise GTLF3N0U (33333101) – Visibility: Day and Night Unlimited
Malfunctions: Situation Dependant

Target Sequence	OV Speed	Task	Target	Range	Motion	View	Sight
1 (LRF,	0 mph	A3	Tank	1600	Stationary	Front	GAS
GPS,TIS)			Tank	1200	Moving 10 mph	Flank	GAS
2	15 mph	A5	Tank	1700	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			Tank (10)	1700	Moving 15 mph	Flank	GPS
3 (NBC)	15 mph	A2S	PC	1600	Stationary	Front	GPS
			PC	1500	Stationary	Front	GPS
			Troops (15)	800	Stationary	Front	GPS
4	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
5	0 mph	B3S	Tank	1500	Stationary	Front	GPS
			Tank	1600	Moving 10 mph	Flank	GPS
			Tank (15)	800	Stationary	Turret	GPS
			Troops (25)	400	Stationary	Front	GPS
6	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
7 (GPCH, TIS)	15 mph	B1	Tank	1500	Moving 10 mph	Flank	CITV
8	15 mph	B5	Tank	1400	Moving 15 mph	Flank	TIS
			Troops	500	Stationary	Front	TIS
			Troops	500	Stationary	Front	TIS
9	15 mph	B2	PC	1700	Moving 15 mph	Flank	TIS
			PC	1700	Moving 15 mph	Flank	TIS
			Troops (15)	500	Stationary	Front	TIS
10 (NBC)	0 mph	B4	Tank	1300	Stationary	Front	TIS
			Tank	1900	Stationary	Front	TIS

GATE–TO–LIVE FIRE EXERCISES (CONTINUED)

Exercise GTLF4N0U (33334101) – Visibility: Day and Night Unlimited
Malfunctions: Situation Dependant

Target Sequence	OV Speed	Task	Target	Range	Motion	View	Sight
1	15 mph	A5	Tank	1600	Moving 20 mph	Flank	GPS
			Troops	500	Stationary	Front	GPS
			Tank (10)	1700	Moving 15 mph	Flank	GPS
2	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
3	0 mph	A4	Tank	2300	Moving 15 mph	Flank	GPS
4 (LRF,	0 mph	A3	Tank	600	Stationary	Turret	GAS
GPS, TIS)			Tank	1300	Moving 10 mph	Flank	GAS
5	0 mph	B3S	Tank	1400	Stationary	Front	TIS
			Tank	1600	Moving 10 mph	Flank	TIS
			Tank (15)	800	Stationary	Turret	TIS
			Troops (25)	400	Stationary	Front	TIS
6 (GPCH, TIS)	15 mph	B1	Tank	1400	Moving 10 mph	Flank	CITV
7	15 mph	B5	Tank	1400	Moving 15 mph	Flank	TIS
			Troops	500	Stationary	Front	TIS
			Troops	500	Stationary	Front	TIS
8	15 mph	B2	PC	1600	Moving 15 mph	Flank	TIS
			PC	1700	Moving 15 mph	Flank	TIS
			Troops (15)	400	Stationary	Front	TIS
9 (NBC)	0 mph	B4	Tank	1300	Stationary	Front	TIS
			Tank	1900	Stationary	Front	TIS
10 (NBC)	15 mph	A2S	PC	1600	Stationary	Front	TIS
			PC	1500	Stationary	Front	TIS
			Troops (15)	800	Stationary	Front	TIS

APPENDIX E
M1A2 SEP AGTS SYSTEM LOGBOOK

LOGBOOK ENTRIES

The M1A2 SEP AGTS System Logbook consists of blank forms, SCS 1612 (see E–2) contained in the TAMMS loose–leaf binder. Data entries on the logbook forms will be made by both the Instructor/Operator and Organizational Maintenance personnel. The Instructor/Operator will enter operational and maintenance data on a daily basis. Each entry shall include the date, time (to the nearest minute), descriptive operational data, and signature of the Instructor/Operator making the entry. Typical operational data to be logged includes:

a. System Power–up and Power–down.

b. User Log–in and Log–off (Instructor/Operator or Manager).

c. Equipment problems that do not interrupt training but require operation in a degraded mode.

d. Equipment problems that interrupt training and require correction before training can commence. (Identify faulty component or training exercise number.)

e. Sight are unity vision blocks scene problems requiring system fault.

f. Equipment returned to operational status or Organizational Maintenance notified.

g. Notes for Organizational Maintenance information to assist corrective action.

APPENDIX E M1A2 SEP LOG BOOK

SYSTEM LOG – DAILY OPERATIONS

TYPE: _____ SERIAL NUMBER: _____ LOCATION: _____

DATE	TIME	REMARKS	ACCOUNTABLE FAILURE TIME/ RTM	SIGNATURE